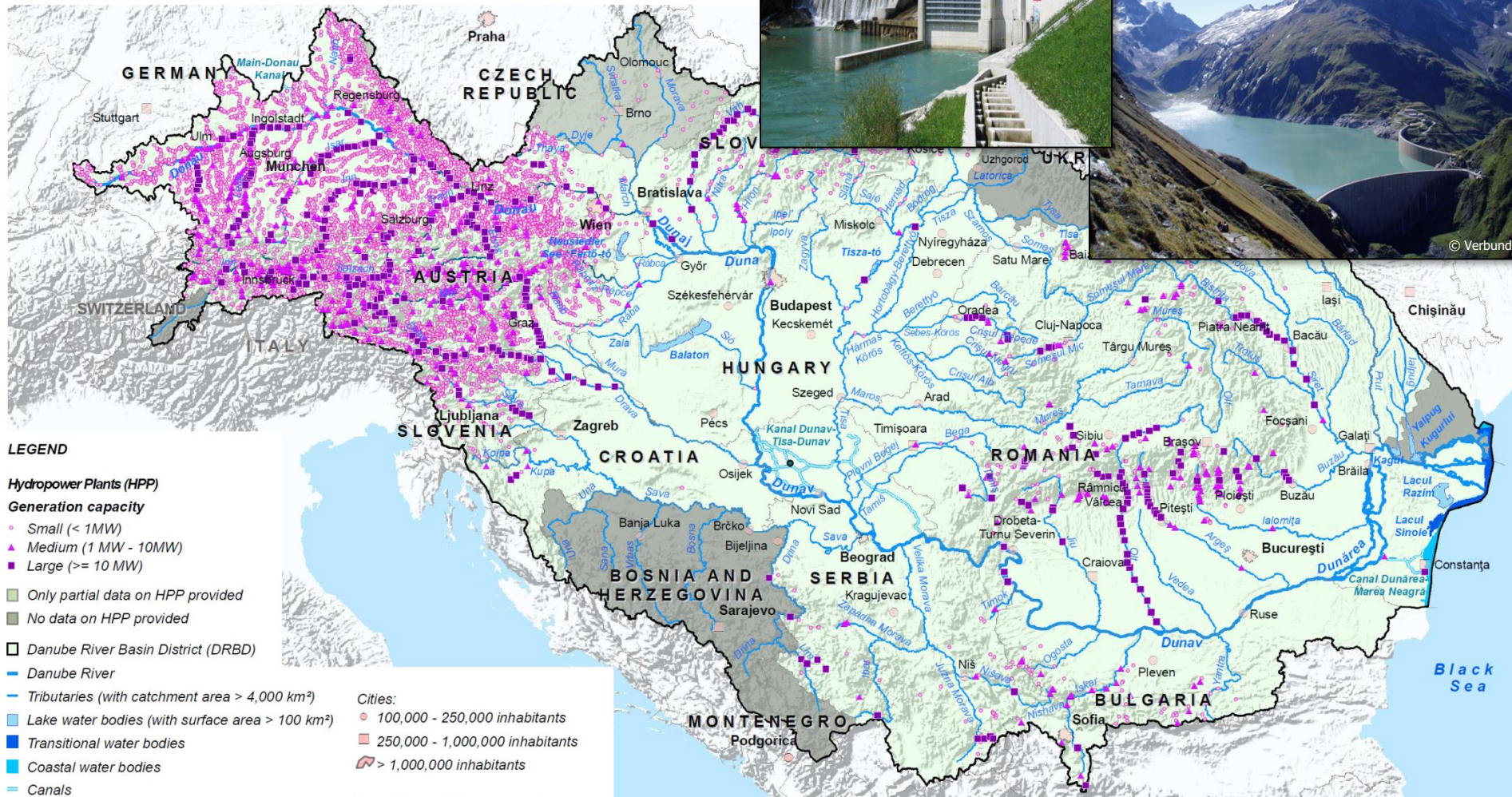


ICPDR Guiding Principles for Sustainable Hydropower Development and their application in the Danube River Basin

International Commission for the Protection of the Danube River (ICPDR)
Ms Edith Hödl, Technical Expert for River Basin Management

Hydropower plants in the Danube River Basin (2012)



Majority of electricity generated by large hydropower

➔ ~ 300 large facilities (>10MW) generate ~ 90% of electricity from HP

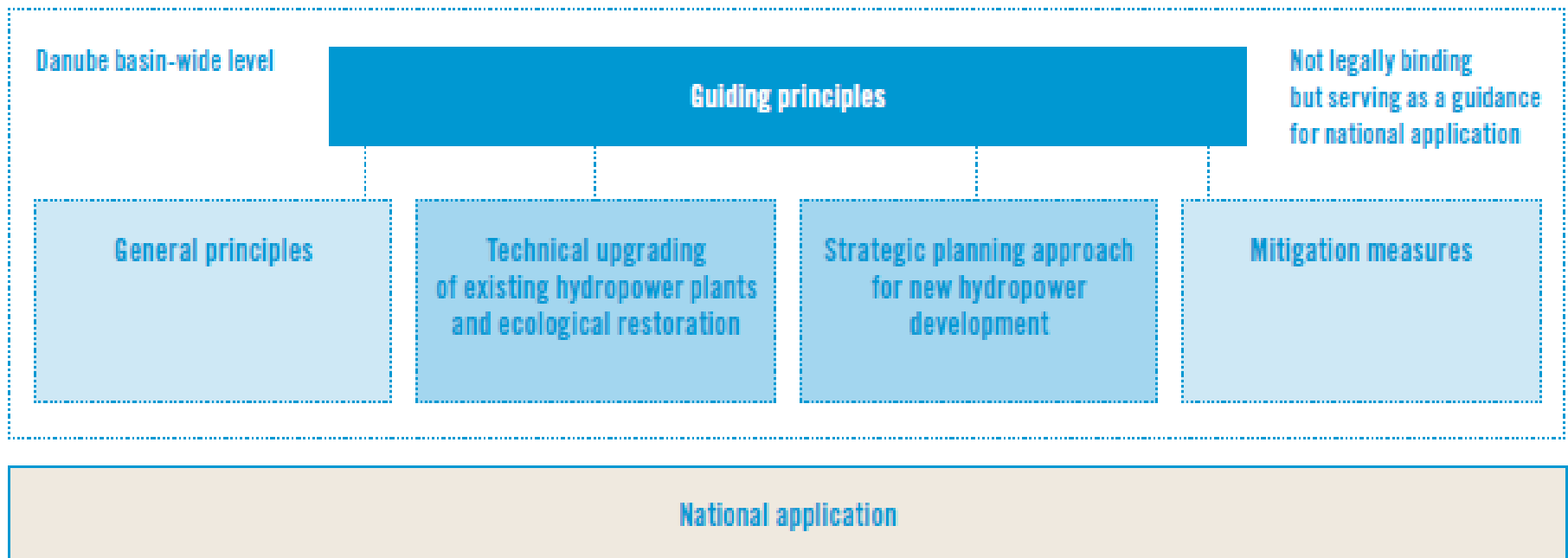
➔ > 8,000 small facilities (<10MW) generate ~ 10% of electricity from HP

Key elements of ICPDR Hydropower Guiding Principles



Main elements of the Guiding Principles

FIGURE 10



- With the support of a **broad participative process** and involvement of administrations from Danube countries on energy and environment, hydropower sector and businesses, NGOs and scientists
- **Adopted in June 2013** and available in **several Danube languages**

Application of ICPDR Hydropower Guiding Principles



Technical Upgrading of Existing Plants and Ecological Restoration

- Technical upgrading promoted in most of the Danube countries but linkage to ecological restoration measures often limited
- In case of linked ecological restoration measures focus on
 - Construction of fish migration aids for upstream and/or downstream fish migration,
 - Ecological flow
 - Self-monitoring of BQEs



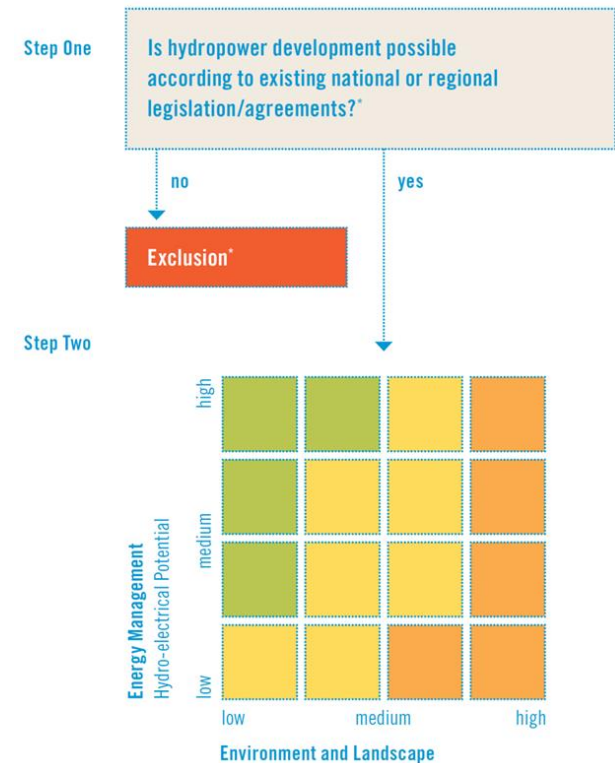
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Application of ICPDR Hydropower Guiding Principles

ICPDR IKSD

Strategic Planning Approach

- Partly implemented in Danube countries through
 - National RBMPs
 - Supporting national documents e.g. Criteria Catalogue (AT), Strategy for an Ecological and Environment Friendly Hydropower (DE), Governmental Decision for Approving the Selection Criteria (RO), Concept of using Hydropower Potential Until 2030 (SK)
 - National (Renewable) Energy (and Climate) Strategies and Plans (BA, RO, RS, SK and UA)
 - Management Plans for NATURA 2000 sites (RO)



Application of ICPDR Hydropower Guiding Principles

ICPDR IKSD

Identifying River Stretches according to the Suitability for New Hydropower Development

- Identification of river stretches where hydropower development is forbidden
 - Yes (AT, BG, HU/criteria for small HPP, RO, SI)
 - Partly (HR/Natura 2000 sites; ME/Tara River, National Parks)
 - Planned (MD, UA)

FAVOURABLE for hydropower development	LESS- FAVOURABLE for hydropower development	NON- FAVOURABLE for hydropower development
Generally considered as possible	Possible under specific circumstances	Possible in exceptional cases**

Update of national information as of 2020/2021 provided by AT, BA, BG, CZ, DE, ME, RO, RS, SK and UA. Reference year 2017 for HR, HU, MD and SI.

Application of ICPDR Hydropower Guiding Principles



Mitigation of Negative Impacts of Hydropower

- Fish Migration Aids mandatory
 - New projects: All, except BA
 - Existing projects: All, except BA/MD/RS/UA
- Ecological Flow Requirements mandatory
 - New projects: All, except HU/ME
 - Existing projects: All, except ME/SK/UA
 - Additional measures (minimizing negative effects of hydropeaking, improving sediment management) planned in many Danube countries



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Key messages



-
- Hydromorphological pressures are hindering achievement of environmental objectives in numerous water bodies in the Danube River Basin (65 % water bodies with significant hydromorphological alteration(s))
 - EU-MS to accelerate and improve implementation to reach WFD objectives by 2027, also to reach ambitions of the EU Biodiversity Strategy 2030
 - Not „hydropower or ecology“, but: „hydropower and ecology“ (cooperation and consensus)
 - ICPDR role in facilitating exchange on application of ICPDR Guiding Principles and providing “space” and platform for exchange of water/energy administration, hydropower sector, science and NGOs/local stakeholders to be continued