

EUROPE INBO 2006

WFD and RES integration



G WEISROCK ESHA



ESHA

- Non-profit Organisation, founded 1989
- Headquarters in Renewable Energy House in Brussels
- Members in mostly all EU countries and worldwide
 - National SHP associations
 - SHP industry (manufacturers, etc.)
 - Scientific community
 - Individual members
- ESHA is founding member of EREC- the European Renewable Energy Council



ESHA objectives

- Promotion of SHP with an installed capacity up to 10 MW
- Lobbying for SHP on European level (European Parliament, European Commission, etc)
- Information dissemination and awareness raising for SHP issues (publications, workshops, conferences)
- International collaboration on the promotion of SHP

WFD an opportunity

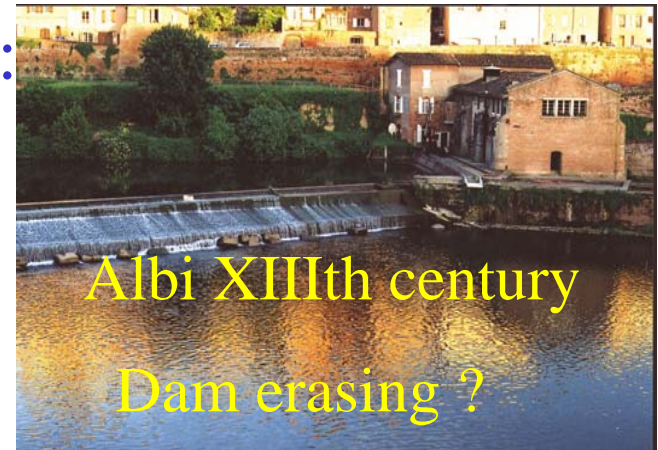
- WFD based on
 - results obligations : GES or GEP
 - scientific measurements : biological quality
 - quality management: plan – do –check – act
- Mitigations measures become a mean no longer a goal
- Sustainable hydro is compatible with GES or GEP

Hydro main EU RES potential

- Existing hydro:
 - 82% EU RES (12.5% electricity generation)
- Hydro peaking EU capacity more than 40 GW
 - Only peaking generation CO2 free
 - Grid balancing necessity (avoiding black-out)
- EU potential development under estimated
 - Administrative barriers
 - Usual / Kyoto - WFD thinking
 - Ex: FR: 30 / 70 TWh; SE: 30/70 TWh; AT: 15 / 60 TWh

Best practices / wrong ways of thinking

- Measures efficiency / GES GEP:
 - Minimum residual flow
 - Hydro peaking conditions
 - Reservoir water level modulation
 - Ecological continuity
 - No go areas
- Not targets themselves for hydro killing
- Defining the sustainable hydro power plant
 - Bio techniques in civil works and water management



GEP: two alternatives

- GEP scientifically unknown
 - Take all mitigation measures possible
 - End of process:
 - GEP still unknown
 - No longer hydro!
- Stick to WFD principles
 - GEP scientific definition
 - Try and test measures
 - Monitoring effects on biological quality
 - Enhance measures

Sustainable hydro

- No achievement Kyoto and RES targets without hydro:
 - Preserving existing generation and peaking
 - Developing small and medium hydro less than 30 MW
 - Wind and biomass insufficient
- RES impact of very water measure become imperative: “no RES loss” principle
- Case by case balancing (merging)
renewable energy/ biological quality
- By 2021 all hydro plants are WFD success keys

A group of people are participating in a white-water rafting activity on a river. The river is filled with rapids, and the water is a vibrant turquoise color. In the foreground, a large grey inflatable raft with the brand name 'KORUADO' is visible, carrying several people wearing red helmets and green life jackets. They are using paddles to navigate the rapids. In the background, another raft is visible, and a person is seen in a blue kayak. The surrounding landscape is lush with green trees and vegetation, with some buildings visible on the banks. The overall scene is one of outdoor adventure and recreation.

Hydro new ecological challenge

Change our minds

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