Geophysical Research Abstracts
Vol. 12, EGU2010-3139-4, 2010
EGU General Assembly 2010

SEE HYDROPOWER Project, targeted to improve water resource management for a growing renewable energy production

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The three years SEE HYDROPOWER project started on June 2009, financed by the South-East Transnational Cooperation Programme (EU), aims to a sustainable exploitation of water concerning hydropower production in SEE countries, looking up to renewable energy sources development, preserving environmental quality and preventing flood risk.
Hydropower is the most important renewable resource for energy production in the SEE countries but creates ecological impacts on a local scale. If on one hand, hydroelectric production has to be maintained and likely increased following the demand trend and RES-e Directive, on the other hand, hydropower utilisation often involves severe hydrological changes, damages the connectivity of water bodies and injures river ecosystems. The project gives a strong contribution to the integration between the Water Frame and the RES-e Directives in the involved countries.
The SEE HYDROPOWER project promotes the optimal use of water, as multiple natural resources, in order to face the increasing regional electrical-energy demand.
Furthermore, SEE HYDROPOWER defines specific needs and test methodologies & tools, in order to help public bodies to take decisions about planning and management of water and hydropower concessions, considering all multi-purposes uses, taking into account the environmental sustainability of natural resources and flooding risks.
Investigations is carried on to define common strategies & methods for preserving river with particular concerns to aquatic ecosystems, considering the required Minimum Environmental Flow, macro-habitat quality, migratory fishes and related environmental issues.
Other problem addressed by the Project is the contrast between Public Administration and Environmental associations on one side and the Hydropower producers on the other side, for the exploitation of water bodies. Competition between water users (for drinking, irrigation, industrial processes, power generation, etc.) is becoming a serious problem, and there is a strong need of a more accurate planning and management optimization of the resources.
The partnership includes a well balance mixing of public administrations, agencies ruling hydropower development, water bodies conservation and scientific institutions having the most advanced technology applied to water management and hydropower generation. Furthermore, a permanent “consultant panel” integrated by target groups representatives from different European countries are involved in key decisions and meetings, that guaranty a concrete regional scale participation.
The present work reports the overall strategy of the project and the description of the main informatic tools that are under development and implementation in five pilot regions, located in Italy, Austria, Romania, Slovenia and Greece.

Keywords: WFD Directive, RES-e Directive, water multi-purpose uses, renewable energy, small hydropower production, environmental balance, minimum environmental flow, flood protection