



## **Scenario analysis for the evaluation of River Basin Management Plan for the Po Catchment under the Water Framework Directive.**

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In order to support the implementation of the Water Framework Directive (WFD) 2000/60/EC it is necessary to develop new methodologies aiming to elaborate management strategies at regional scale. The WFD marks the change of planning processes requiring sophisticated tools able to combine economic, ecological, social constraints that may help evaluate possible strategies for policy makers, scientists and stakeholders (participatory principle). This aspect is highlighted and underlined by the introduction of specific dead-lines by which each Member State is requested to achieve the Water Quality Objectives. Thus, the implementation of the WFD strictly requires the development of strategies able to provide the possible Response related to foreseen impacts on ecosystems. For the Po catchment and the North Adriatic coastal zone the eutrophication is a relevant environmental issue related to human activities that are responsible of the nutrient loads transported by the Po River into the North Adriatic Sea. In order to evaluate strategies aiming to reduce eutrophication in North Adriatic CZ three type of scenarios Business-As-Usual (BAU), Policy Target (POT) and Deep Green (DG) scenarios were developed. The evaluation of strategies for this case study aims to provide the integration of the inland and coastal waters protection by applying the approach and the principle of the Integrated Coastal Zone Management (ICZM) and taking into account the formulation of the 'River Basin Management Plan'(RBMP) whose dead-line is 2009 (Art. 13 and 4.3 of WFD). A detailed socio-economic analysis was used as background input to formulate coherent hypothesis (story-lines) of socio-economic evolution for the Po Catchment-Adriatic CZ area. Thus, for each story-line appropriate policy options according to both European and Italian Legislation were selected and combined in order to formulate 'Policy Pack-

ages' for each type scenario. An integrated system of biogeochemical models was used to evaluate the reduction in nutrients loads that would be achieved under different scenarios. The outcome of this activity should assist policy makers to understand the possible future change of natural conditions deriving from the adoption of policy measures.