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Ecoremediation – a new concept of ecosystem technologies

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Ecoremediations (ERM) are natural and innovative man-made ecosystem technologies with multipurpose function: water treatment, water retention / reuse, biodiversity increase and energy crops production. The establishment of ERM systems provides sustainable environment management solutions for incensement of quality of water and soil, especially in protected and sensitive areas. The functions of ERM is based on aquatic, waterside and wetland ecosystems characteristic with a high retention capacity, flooding prevention as well as specific physical, chemical and toxic pollution reduction. The paper reviews operational performances of over 30 multipurpose ERM systems in Slovenia: constructed wetlands (CW) for sewage, industrial waste water, drinking water, landfill leachate, high-way run-off, ponds/wetlands, vegetated drainage ditches (VDD) for agricultural run-off, landfills restorations with ERM, river revitalizations, and improvements of habitats for endangered species. The further aim of ERM concept is also to promote the idea to unify different kind of “green technologies” that are based on nature’s self-cleaning mechanisms upgraded by the latest scientific developments in the search for sustainable solutions that do not swear by the passive role of the nature, but look for solutions in the nature itself that build sustainable models through the understanding of human-environmental relations in the context of integrated comprehension.