



## Editorial

### DWT—Editorial for Special Issue dedicated to SDEWES 2011

The 6th Dubrovnik Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES Conference) was held in September 2011, attended by more than 400 scientists from 55 countries and six continents. It was dedicated to the improvement and dissemination of knowledge on methods, policies, and technologies for increasing the sustainability of development, taking into account its economic, environmental, and social pillars, as well as methods for assessing and measuring sustainability of development, regarding energy, transport, water, and environment systems and their numerous combinations. Out of around 350 submitted and presented papers, only nine are selected for publishing, dealing mainly with water and environmental issues.

Mariusz Dudziak [1], in his paper “Retention of mycoestrogens with industrial nanofiltration modules,” addressed nanofiltration of water contrasting organic and inorganic matter concentrations, which contained low-molecular weight mycoestrogens, using an industrial membrane module. It has been found that the effect of water recovery on the separation of micropollutants was the main cause of the decrease in the removal of the compounds in industrial installations against the results obtained on a bench scale.

Waste Water Management has one of the central role in the Integrated Water Resources Management and, thus in Sustainable Development. In the paper “Ecotoxicological evaluation of wastewater in a municipal WWTP in Lisbon area (Portugal),” Elsa Mendonça et al. [2] presented tests to optimize management of the WWTP in terms of environmental impact.

The European Union (EU)’s Nitrates Directive aims to reduce water pollution caused or induced by nitrates from agricultural sources and to prevent further pollution of this kind. The paper “Implementation of the European Union’s Nitrates Directive in Turkey” by Ulku Yetis et al. [3] reports about

technical measures and investment cost assessment related to the implementation of the Nitrates Directive in Turkey.

The energy-water nexus at the Beijing city level, with the population of 18 million, out of which 85% is concentrated in urban areas, is analyzed by Shankey diagram in the paper by Xunmin OU et al. [4]. Concluding that Beijing faces serious urgent challenges to the sustainability of its water supply, authors are also stressing the fact that the electricity used in water supply chain was about 5% of city’s total electricity consumption, which is in line with observations from other water-scarce regions.

Implementation of eco-efficient and sustainable practices to improve the environmental status of all water bodies according to EU Water Framework Directive is the main aim of the paper “Waterpraxis as a tool supporting protection of water in the Sulejow Reservoir,” by Aleksandra Zieminska-Stolarska et al. [5]. The Waterpraxis will also have a positive impact on the standards of living and business environment in the area of the Sulejow Reservoir in Central Poland.

“Exergy as a guide to allocate environmental costs of the Water Framework Directive Implementation in the Ebro river” (Spain), by Javier Uche et al. [6] has the most relevant contribution in the assessment of restoration cost among diverse water polluters. Quality restoration costs found in the agriculture users are identified to be the highest in dry years, but quite similar to the ones found in the urban users in wet years. Degradation provoked by the hydroelectric user, never taken into account before in the Physical Hydromomics methodology, resulted to be the lowest, but increases in wet years.

Ecological Footprint (EF) is a widely accepted tool for translating all human activities so as to assess their environmental impact and has been often used as an indicator for environmental sustainability. Paper “EF as a tool for Integrated Coastal Zone Management,”

by Sofia Kessopoulou and Dora Papathepchari [7], attempts to find the gaps in coastal management which the EF could fill in by acting as a planning and management tool.

The Completely Autotrophic Nitrogen removal Over Nitrite (CANON) process is suitable to remove ammonium from wastewaters characterized by low content of organic carbon but rich in ammonium. The modeling of CANON process is shown in the paper “Model Based Evaluation of Operating Parameters on CANON Process in a Membrane Aerated Biofilm Reactor,” by Leila Vafajoo and Mahdi Pazoki [8].

And finally, Owen Clus et al. [9] in the paper “Dew, fog and rain water collectors in a willage of South Morocco (Idouassksou)” show simple devices not only to condense dew water, but also to harvest rain and fog, thus providing to the population in very arid area a valuable water resource. Although virtually very expensive per unit quantity, it was found that the dew contribution, amounting to about 40% of rain precipitation, could not be ignored any more.

To conclude, the sustainability science is a perfect field for interdisciplinary and multicultural evaluation of complex systems. In that sense, the SDEWES Dubrovnik Conference has during the first decade of the twenty-first century became a significant venue for researchers in sustainability to meet, discuss, share, and disseminate new ideas.

## References

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