



*Invitation to the professional conference and excursion  
by WECF and the Regional Administration of Sofia Region*

## Constructed Wetlands - Sustainable and Cost-Effective Wastewater Treatment in Rural and Sub-Urban Areas Bulgarias

Presenting the Case Study Vidrare, Pravets Municipality

### Rationale

Proper sanitation and wastewater treatment are key challenges for a healthy environment in urban and rural settings. Unregulated run-off of raw wastewater poses a threat to public health and the environment. Children and vulnerable groups are particularly hit by cases of water borne diseases but also adults suffer consequently, which can significantly affect the economic development of a region. The environmental damage due to untreated wastewater is relevant as well. Groundwater as a major resource for drinking water is under increasing pressure from human activities.

In Bulgaria, around 1.8 Mio live in settlements with less than 2,000 inhabitants which usually do not have any wastewater collection or treatment and are not obliged to provide this in the near future. As they are not covered by the UWWTD, the agglomerations with less than 2,000 inhabitants are not eligible for getting financial support by the EU for setting up an adequate sanitation and wastewater system. Many of these settlements rely on local drinking water sources which are often polluted by human activities and insufficiently protected.

**Cost effective solutions which meet the EU requirements, protect public health and the environment are needed.** The smaller the settlements, the more expensive centralised technical systems are per capita. Centralised sewerage and technical wastewater treatment become hardly affordable for small communities. The Western member states, e.g. some parts of Germany, suffer from high prices due to conventional technical planning not adapted to

specific conditions. There is mostly a lack of financial, technical and natural resources in rural areas.

Bulgaria is one country already affected by climate change. Increased drought periods and higher temperatures are observed hence groundwater levels are decreasing. For successful adaptation to climate change, implementation of sustainable concepts and approaches for water saving and closing of the local water cycles are needed. **Constructed wetlands are sustainable and cost-effective wastewater treatment systems which have a number of advantages compared to conventional technical systems.**

### Conference and Excursion

Within this project (funded by DBU and co-funded by Pravets municipality), EcoWorld2007, Otterwasser and WECF designed and implemented the first constructed wetland demonstration plant (80 population equivalents) in Bulgaria. In this conference, the design, construction and operation principles of constructed wetlands will be explained. The case study of Vidrare and also a number of examples for constructed wetlands from other European countries will be presented. There will be time for discussion how this technology can be applied in Bulgaria and what are barriers for the implementation. After the conference, an excursion to visit the constructed wetland in Vidrare is offered.

**This conference is targeted at professionals, consultants and authorities. Simultaneous translation English-Bulgarian will be provided.**





## Programme

Friday 29 April 2011 at *Grand Hotel Sofia, Hall Sredets*

9:00	Registration/ inscription for the excursion and coffee
10:00-10:05	Welcome by <b>Krasimir Zhivkov</b> , Regional Administration Sofia Region
10:05-10:10	Welcome by <b>Sascha Gabizon</b> , executive director WECF
10:10-10:15	Welcome by <b>Ministry of Environment</b> – to be confirmed
10:15-10:20	Introduction of the moderators <b>Irena Petkova</b> , Sofia Oblast and <b>Sascha Gabizon</b> , WECF
10:20-10:40	The need and challenges for sustainable and cost-effective wastewater treatment in rural and sub-urban areas in Bulgaria <b>Bistra Mihaylova</b> , EcoWorld2007, Dr.-Ing. <b>Claudia Wendland</b> , WECF
10:40-10:45	Questions and answers
10:45-11:10	Design, construction and operation principles of constructed wetlands – Examples from Europe Dr.-Ing. <b>Jens Nowak</b> , German expert for wastewater treatment
10:10-11:15	Questions and answers
11:15-11:25	Investigations on wastewater treatment in constructed wetlands in laboratory scale Ph-student <b>Silvia Lavrova</b> , Chemical University Sofia
11:25-11:30	Questions and answers
11:30-11:55	Constructed wetlands demonstration plant for domestic wastewater treatment in Vidrare, Pravets municipality – case study <b>Andrea Albold</b> , Otterwasser, German consultant
11:55-12:00	Questions and answers
12:00-12:10	Institutional support and cooperation with municipalities in searching for solutions for treatment of the wastewater <b>Irena Petkova</b> – Sofia Oblast
12:10-12:20	Wastewater management in rural and per-urban areas in Bulgaria <b>Ministry of Environment</b>
12:20-13:00	Questions, discussion and presentation of the case study document
	Lunch package
14:00-17:00	Excursion to the constructed wetlands demonstration plant for domestic wastewater treatment in Vidrare, Pravets municipality Welcome by <b>Nikola Nitov</b> , Mayor of Pravets

Contribution for the excursion and lunch package of 25 Euro (optional)

