

## **Evaluation of Sustainability of Sewerage Systems in Metropolitan Areas: Emscher and Berlin Case Studies**

### **Project**

### **Duration**

Feb - May 2006

This project aimed at realising a comparative evaluation of the development of urban wastewater systems against the background of the implementation of the Water Framework Directive (WFD). This evaluation was based on five case studies undertaken as part of the project and discussed at an international conference in Milan on 4 May 2006. An expected result was to gain knowledge on the technological, economic, management and institutional consequences arising from a shift from an approach dominated by point-source emission standards to one focusing on the good ecological standards of water bodies. Ecologic undertook two of the case studies, one being on the Emscher Region and one on Berlin.

Milan has just recently completed its baseline water treatment system. In spite of the fact that the new system complies with the Urban Wastewater Treatment Directive (UWWTD), the city is still faced with heavily polluted natural and artificial flowing watercourses and groundwater. In order to support the city's efforts towards the restoration of the water environment in the basin, the [Università Bocconi](#) undertook a comparative analysis of wastewater management in five European urban areas: Paris, Birmingham, Berlin, Porto and the Emscher Region in the German Ruhr area. Ecologic prepared and presented the two German studies.

### **The Emscher Region - A River Basin approach with important ecological problems**

The [Emscher river basin](#) is faced with several challenges as regards the achievement of "good status" in all water by 2015, both in quality and hydromorphological terms. The Emscher river is located in an industrial and very densely populated area and serves in some parts as an open sewerage system. The [Emschergenossenschaft](#) was established in 1904 to face the challenges created by rapid industrialisation and the resulting overexploitation and pollution of resources. It consists of representatives from the municipalities, industry and mining sector in the Emscher region, and thus has been presenting the characteristics of an organisation with a multi-stakeholder and river basin perspective for over 100 years already. Since 1990, the Emscher and its tributaries have been subject to an extensive reconstruction project. This project includes the construction of decentralised sewer system and the restoration of watercourses and is thus a key for the WFD implementation in the basin. However, the Emscher river basin will still be faced with high challenges to achieve the 'good status' / 'good potential' by 2015.

## Berlin - From an "island" perspective to a River Basin approach

A large proportion of Berlin's waterbodies are classified as either artificial or heavily modified, and most surface and groundwater bodies will most probably not reach the WFD objectives. After the second World War, West-Berlin developed into a near self-contained "island", at least in terms of water production and management. It was only after the fall of the wall that the perspective could effectively be broadened to a whole city and, eventually, to a wider horizon taking account of water pollution occurring outside Berlin. Berlin's water and sanitation services are ensured by [Berliner Wasserbetriebe](#) and are partially privatised but the Land of Berlin still needs to be involved in water issues. Although wastewater treatment plants fulfil the requirements of the UWWTD, the sewerage system continues to present problematic issues, especially as regards rainwater management. Both separate rainwater collection (with untreated discharge, 75% of Berlin's area) and rainwater collection mixed with sewer (both being discharged untreated in cases of overflow) can lead to important quality problems. In addition, upstream coal mining leads to diffuse pollution that cannot be tackled within Berlin alone. Co-operation with the surrounding Land Brandenburg is a necessity that is slowly becoming reality.

The [result of the case studies](#) were presented and discussed during a conference in Milan on 4 May 2006.

### Funding

[Comune di Milano](#), Italy

### Partner

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### Duration

Feb - May 2006

### Project ID

[201-12](#)

### Keywords

[Cities](#)

[Water](#)

sewerage, water, sustainable management, waste water treatment plant, sewer system, Water Framework Directive, economic analysis  
Europe, Germany, Emscher, Ruhr, Berlin

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**Source URL:** <https://www.ecologic.eu/1702>