

## Five case studies with focus on management of priority substances in European river basins

Based on joint methods and reporting routines, the Decision Support System (DSS) developed in SOCOPSE has been evaluated in five case studies located in different geographical regions, see Figure 1. The experiences from these case studies will also be used to integrate the results on the European scale. The five case studies, which represent different geographical regions of Europe as well as different scales, are:

- North: Baltic Sea catchment, Vantaa River
- North: Baltic Sea catchment, Kłodnica River
- West: Meuse River
- Central: Danube catchment
- South: Ter/Llobregat catchments



Apart from the obvious geographical differences, the five case study regions have different characteristics in terms of pollution sources and degree of contamination of priority substances. All the priority substances are not relevant in all case studies, due to regional differences in use and emissions. The different case studies focus on priority substances selected for the specific region or river basins. The priority substances included in this project are given in the table below.

Figure 1. An overview of the case study regions in Europe

Name	Major uses or emission sources
Polycyclic aromatic hydrocarbons, PAH, including Anthracene	Incomplete combustion
Brominated diphenyl ethers, PBDE	Flame retardant
Mercury, Hg	Chlor-alkali industry, coal combustion
Cadmium, Cd	Numerous
Tributyltin, TBT	Antifoulant, preservative, stabiliser in plastics
Nonylphenol	Industrial chemical
Hexachlorobenzene, HCB	Unintended formation, fungicide
Isoproturon	Pesticide
Atrazine	Pesticide
Di(2-ethylhexyl)-phtalate, DEHP	Plasticiser

## MAIN CONCLUSIONS

In general, the use of the SOCOPSE decision support system fits in well with the ongoing work with river basin management plans (RBMP), as required by the European Water Framework Directive (WFD).

There is general lack of data and other information, including environmental concentrations, present emissions for the selected priority substances, abatement cost and benefits. Another critical short-coming of concern is the low quality of available data.

Fact sheets and substance reports, developed within SOCOPSE, have proved useful for identification of sources and potential emission control measures for the selected substances. However, the lack of consistent data has implications for the evaluation of the effectiveness of the measures to reduce emissions. Expert judgement and impact models can be valuable complementary tools in the identification of sources, calculations of discharges and assessment of possible measures.

Strong interaction with stakeholders has been a key to the success in the case studies. They have improved the understanding of the local conditions and have been an invaluable resource for identifying possible future challenges and problems in respective catchments.

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