ScorePP is a Specific Targeted Research Project (STREP) funded by the European Commission under the Sixth Framework Programme

ScorePP

Brief Project Presentation

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Source Control Options for Reducing Emissions of Priority Pollutants (ScorePP)

Sixth Framework Programme, Sub-Priority 1.1.6.3, Global Change and Ecosystems

Project no. 037036, www.scorepp.eu, Duration: 1 October 2006 – 30 September 2009

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Abstract (max. 200 words)

A brief presentation on the ScorePP project was given at the conference COST Action 636 – Xenobiotics in the Urban Water Cycle at Vienna University of Technology in September 2006. The presentation covered the project's main objectives as well as a justification for the project's conduction. Furthermore, the different project partners were introduced as well as the different case study cities involved. Finally a time plan was presented which showed the project's expected duration of activity.

Acknowledgement

The presented results have been obtained within the framework of the project ScorePP - "Source Control Options for Reducing Emissions of Priority Pollutants", contract no. 037036, a project coordinated by Institute of Environment & Resources, Technical University of Denmark within the Energy, Environment and Sustainable Development section of the European Community's Sixth Framework Programme for Research, Technological Development and Demonstration.

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1. Introduction

A brief project presentation was given on 25-27 September 2006 in conjunction with the conference COST Action 636 – Xenobiotics in the Urban Water Cycle at Vienna University of Technology in Austria. The presentation was given during the first working group (WG1) session which focused on identification, sources and fluxes of xenobiotics in the urban water cycle.

The project presentation described the project's main objectives as well as briefly introducing the project partners and the case study cities involved. In addition, background information was provided which described the justification for the project's conduction, including information on the EU's Water Framework Directive (WFD). Work packages were describes as well as the anticipated time-line for the project's duration.

The COST Action 636 meeting in September 2006 was a suitable setting for this brief project presentation, because of its relevancy to the ScorePP project (i.e. xenobiotics in the urban water cycle). Furthermore, the working group session was beneficial to informally and formally discuss other relevant information related to the ScorePP project, such as the status of chemical pollution in European urban waters.

The following pages contain copies of the original slides presented.

Institute of Environment & Resources
Technical University of Denmark

SCOREPP

Source Control Options for Reducing Emissions of Priority Pollutants

Presented by: Peter Steen Mikkelsen
Project Coordinator
Institute of Environment & Resources,
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COST Action 636 – Xenobiotics in the Urban Water Cycle, Vienna meeting, 25-27 September 2006
WG1: Identification, sources and fluxes, 1st parallel meeting, 25 September 2006, 16:00-18:00

The SCOREPP project

- A Specific Targeted Research Project (STREP)
- Funded by the European Commission under the 4th Call of the 6th Framework Programme, sub-priority 1.1.6.3 ”Global Change and Ecosystems”
- Duration: 1 Oct 2006 + 36 months
- Contract is currently being signed
- Budget: 3.6 M EUR, 2.6 M EUR from the EC
- 9 partners

Partners and key persons

1. Technical University of Denmark, Institute of Environment & Resources (**DTU**)
   - P.S. Mikkelsen, A. Ledin, E. Eriksson, B.K. Rasmussen
2. Middlesex University, School of Health and Social Sciences (**MU**)
   - Mike Revitt, Lian Scholes
3. Gent University, Dept. of Applied Mathematics, Biometrics and Process Control (**UGent**)
   - F. Verdonck, L. Benedetti
4. Anjou Recherge, Municipal Wastewater Department (**AR**)
   - E. Trouve, L. Castillo
5. ENVICAT Consulting (**ENVICAT**)
   - A. Lecloux
6. University of Ljubljana, Faculty of Civil and Geodedic Engineering (**UL**)
   - B. Kompare, P. Banovec
7. Dosenvolupament i Societat ESTUDIS SA (**ESTUDIS**)
   - C. Bessat, J. Trouve
8. Stockholm City, Envionmental Monitoring (**MF**)
   - A. Jonsson , L. Sörme
9. Université Laval, Département Génie Civil, model*EAU* (**model*EAU***)
   - P. Vanrolleghem, L. Rieger

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Partners and case cities

Partners:
- DTU, Denmark
- MU, UK
- UGent, Belgium
- AR, France
- ENVICAT, Belgium
- UL, Slovenia
- ESTUDIS, Spain
- MF, Sweden
- modelEAU, Canada

Case cities:
- Stockholm, Sweden
- St. Malo, France
- Prague, Czech Republic
- Quebec, Canada
- St. Sebastian, Spain

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Text in work programme

(interpretation follows on the next pages)

Art. 16 of the Water Framework Directive has put in place a mechanism through which a list of 33 priority pollutants, for which environmental quality standards and emission control measures have to be established, was created. From this list, a group of 11 priority hazardous substances were identified, which will be subject to cessation or phasing out of discharges, emissions and losses within an appropriate timetable that shall not exceed 20 years.

This action will investigate alternative technologies, management options and monitoring systems for source control of priority substances, carrying out, as well, a multi-criteria comparison with end-of-pipe solutions. The impact of different substitution options of priority substances for their various uses should be assessed. This action contributes to the objectives of the Environmental Technologies Action Plan (ETAP).

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Main SCOREPP objectives

- Develop comprehensive and appropirate source control strategies that authorities, cities, water utilities and chemical industry can employ to reduce emissions of priority pollutants from urban areas

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WFD PS (33) and PHS (11)

Group	Substance
Alkylphenols	Nonylphenols, Octylphenols
Aromatic carbons	Benzene
Halogenated hydrocarbons	C10-C13 chloroalkanes,1,2 Dichloroethane, Dichloromethane, Hexachlorobutadiene, Pentachlorobenzene, Trichlorobenzenes, Trichloromethane
PAH	Anthracene, Fluoranthene, Naphthalene, Polyaromatic hydrocarbons (sum)
Plastizisers	Di (2-ethylhexyl) phthalate (DEHP)
Pesticides	Alachlor, Atrazine, Chlorfenvinphos, Chlorpyrifos, Diuron, Endosulfan, Hexachlorobenzene, Hexachlorocyclohexane, Isoproturon, Pentachlorophenol, Simazine, Trifluralin
Metals	Cadmium and its compounds, Lead and its compounds, Mercury and its compounds, Nickel and its compounds
Organo-metals	Tributyltin compounds

Note: New list including EQS was proposed in July 2006

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SCOREPP Priority Pollutants (PPs)

- The 33 priority substances (PS) identified in the WFD, and especially the 11 PHS
- Expand list to
  - Include ”emerging pollutants” (already the case in the FWD)
  - Local demands for monitoring
- Reduce list if
  - Appropriate model compounds can be identified (similar source, fate pattern, legislation)
  - Analytical difficulties

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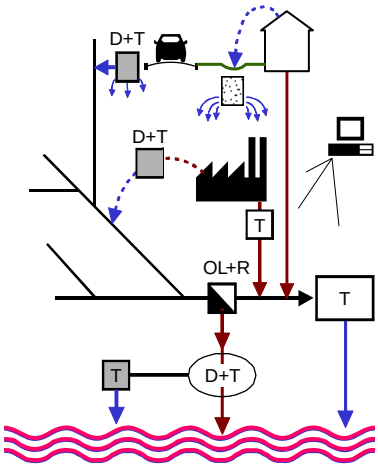
The considered physical system

Limiting release through:
- Substitution
- Minimising release from produtcs
- Legislation and regulations
- Voluntary use reductions

Treatment options:
- Stormwater BMPs
- Household treatment & reuse of WW
- On-site industrial treatment
- WWTPs
- Sludge disposal

Sinks:
- Primary: Surface water (WFD)
- Secondary: Sediments, soils/gr.water, humans, ...

Example: Combined system:



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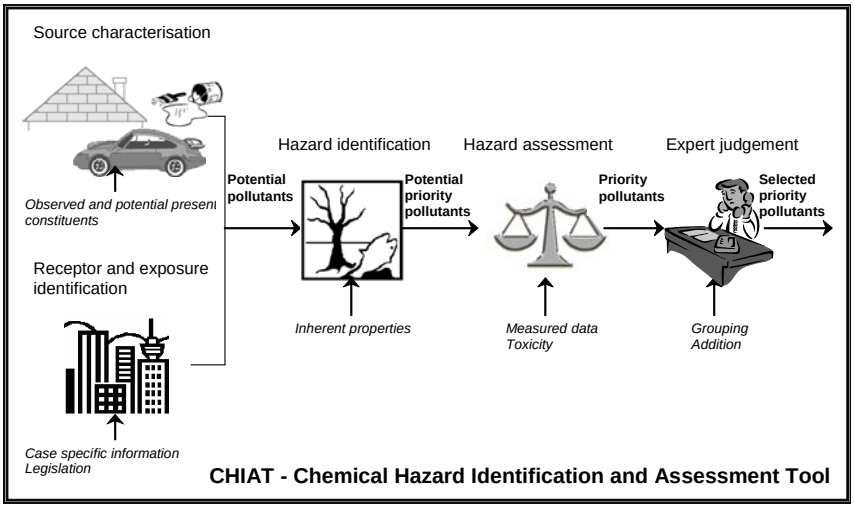
Underlying approach



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Work packages

- WP1: User requirement analysis and dissemination to end-users
- WP2: Analysis of case studies
- WP3: Source characterisation of priority pollutants
- WP4: Limiting release of priority pollutants
- WP5: Treatment options
- WP6: GIS-based identification of emission control measures
- WP7: Models and monitoring strategies
- WP8: Socio-economic analysis of source control measures
- WP9: Integration of knowledge and comparison of emission control strategies
- WP10: Project management and co-ordination

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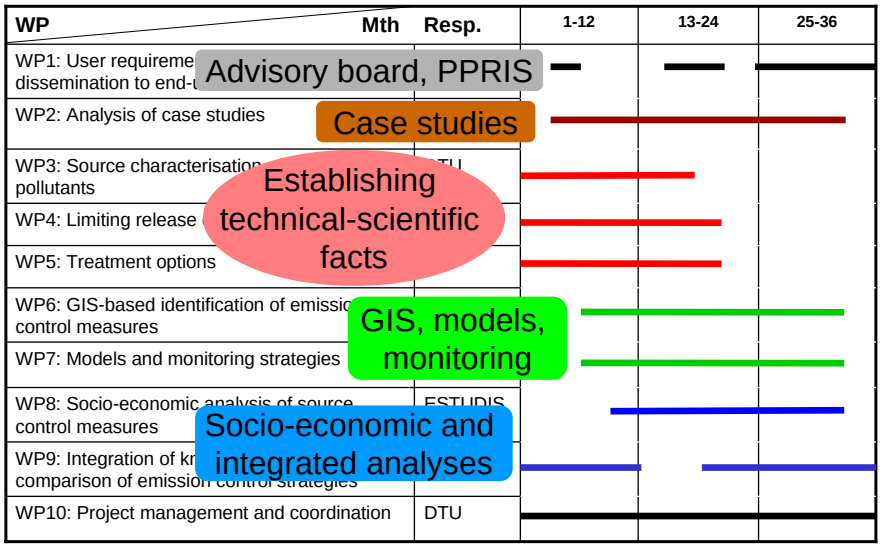
Project plan



Main output from work packages

- WP8: Socio-economic analysis of source control measures
  - Maco-economic model, socio-economic cost database, mapping of decision processes, benchmarking, economic assessment, guidelines
- WP9: Integration of knowledge and comparison of emission control strategies
  - Uncertainty, integration of methodologies in case-studies, common data structures, comparative screening of ECS, socio-economic criteria, semi-hypothetical case-studies and ECS, MCA

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Main output from work packages

- WP3: Source characterisation of priority pollutants
  - Database with properties of PPs, mapping of sources and source dynamics, emission statistics and release factors
- WP4: Limiting release of priority pollutants
  - Possible substitutes, minimisation of release from products, legislative/regulatory handles, voluntary initiatives, feasibility analysis
- WP5: Treatment options
  - Quantification of PP behaviour/fate in stormwater BMPs, household treatment & reuse systems, on-site industrial treatment systems, end-of-pipe WWTPs and sludge disposal, feasibility analysis

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Main output from work packages

- WP6: GIS-based identification of emission control measures
  - Systematic catchment characterisation, unified data formats and GIS databses, visualisation tools, GIS modelling, DSS selection of ECS
- WP7: Models and monitoring strategies
  - Models for pollution generation and unit processes in treatment trains, integrated urban-scale PP-exposure model, strategies for monitoring effect of ECS, guidance on model based planning of sampling campaigns

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Thanks !

Next time, there will be more results...