

european groundwater – ground for hope

“ We will now be able to establish
a basis for real European research. ”

European legislation offers increasing protection from pollution for soil and groundwater. Ongoing research is crucial to implementing these environmental protection measures in the most cost-effective way. Deeper understanding of environmental processes is required as the legislative focus expands from point-source pollution to consider gradual or diffuse pollution.

An ERA-NET of national environmental regulators is working to coordinate European research on soil and water pollution. It will encourage countries to work together where research is most needed, ensuring that results and novel techniques are well known both to policy-makers and practitioners dealing with pollution and contamination.

Pollution of soil and groundwater is an increasing problem across Europe. Industry, agriculture, domestic waste and transport all leave their dirty marks on the subterranean environment. Soil is used to grow food and for building, while groundwater feeds directly into industrial and domestic water pipes in many countries. The EU is keen to legislate against soil and water pollution and to provide for effective remediation of polluted areas. Many Directives relating to soil and groundwater have been introduced, and others are under development. But such policies must be backed by appropriate scientific knowledge. More research is needed, and it is essential that this is carried out as efficiently as possible across Europe.

The SNOWMAN ERA-NET project is working to coordinate Europe's national research programmes on soil and water pollution and contamination, and to encourage transnational research programmes relevant to environmental protection policy. It is being undertaken by a consortium of five partners, including the national environmental regulators of France, the Netherlands, the United Kingdom, Germany and Austria.

Protecting the sod

European legislation on groundwater and soil pollution is wide-ranging. The Water Framework Directive (2000), currently being implemented at national level, has expanded protection of water from watercourses to entire catchments, including groundwater. Its implementation requires improved understanding of the pollution of groundwater via soil. Intensive research is going on around Europe, but it is important that efforts are not duplicated.

Soils are protected under the Landfill Directive, the Directive on Nitrates Pollution from Agricultural Sources, the Habitat Directive, and others. The European Commission is currently developing its policy on soil protection, and SNOWMAN's participants are directly involved. Having the same people developing European policy and coordinating European research will ensure that new policies are backed up by appropriate science.

Gradual pollution

Pollution comes either from a point source such as an industrial site, or it can be diffuse – introduced by many small sources, such as agricultural pesticides. Although it is more difficult to control, diffuse pollution is increasingly being included in environmental legislation like the Water Framework Directive. Participants in SNOWMAN worked together in a previous EU-funded research network, harmonising European research on point-source contamination of soil. The SNOWMAN ERA-NET will build on



Coordination Action

**Full title:**

Sustainable management of soil and groundwater under the pressure of soil pollution and soil contamination

Research field:

Soil and groundwater protection

Coordinator:

Austria: Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft

Partners:

- France: French Agency for Environment and Energy Management
- Germany: Federal Environmental Agency
- Netherlands: Netherlands Centre for Soil Quality and Knowledge Transfer
- UK: The Environment Agency of England and Wales

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relationships formed during this process, expanding the remit to include all issues surrounding groundwater and soil pollution, especially diffuse pollution.

Coordinating research

The SNOWMAN ERA-NET has three concrete objectives. First, to compile a database of national research programmes relating to soil and groundwater protection. This will highlight areas of overlap and support integration of national research programmes into European policy.

The second objective is the production of a vision paper outlining a coherent direction for a pan-European research policy on groundwater and soil pollution. It will indicate gaps in knowledge and emphasise areas where countries could usefully work together. SNOWMAN participants will meet regularly, and will actively engage research programme managers from other European countries in a programme of workshops and international visits. The paper will draw on discussions held at these meetings.

Third, SNOWMAN will prepare for the implementation of transnational research programmes. A legal framework will be outlined, current collaborations that could be built upon will be highlighted, and related projects from different countries will be brought into direct contact. Specific instruments for promoting transnational programmes, such as common criteria for evaluation of research proposals and international peer review, will be developed. Overall, SNOWMAN will improve communication between science funding bodies, researchers and pollution control professionals across Europe. At present, research in one country is not effectively communicated in others, often resulting in unnecessarily expensive remediation. The network has strong links with an EU-funded internet portal known as EUGRIS (European Ground Water and Contaminated Land Information Service) which provides information to professionals in the field. All results and information generated by SNOWMAN will be published on this site.