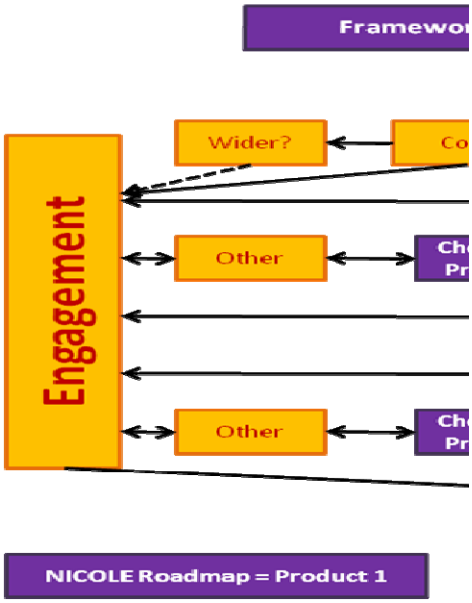
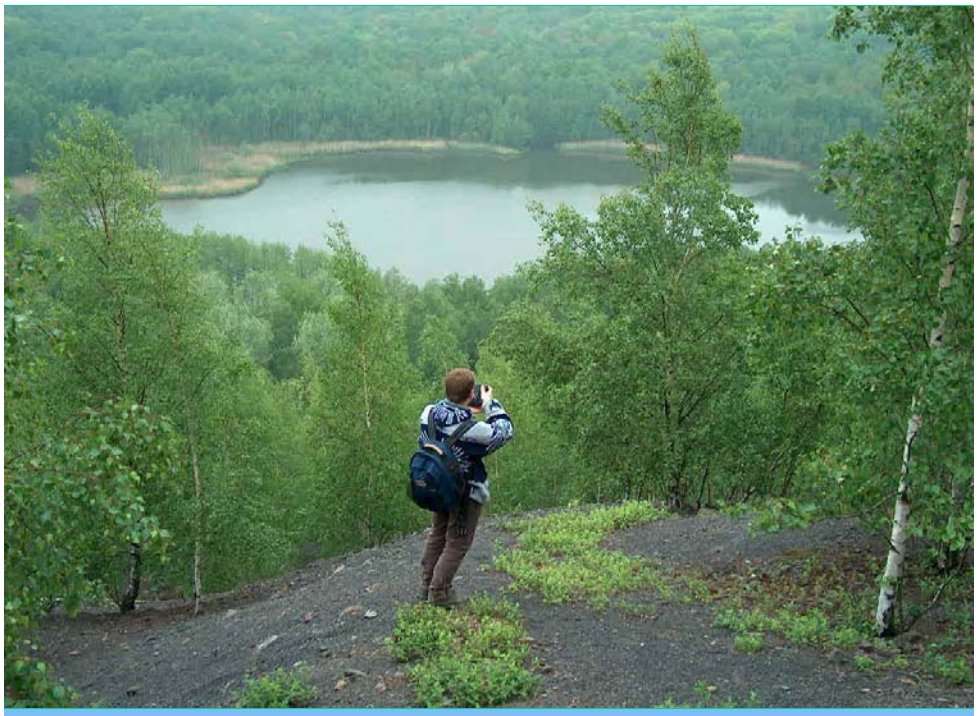
REPORT OF THE NICOLE Workshop:

Sustainable Remediation – A Solution to an Unsustainable Past?





3-5 June 2009

Leuven, Belgium

www.nicole.org

Compiled by Paul Bardos

Acknowledgements

NICOLE gratefully acknowledges

- the speakers and chairpersons for their contributions to the workshop and their comments on this report
- the members of the Organising Committee:
    - Sarah MacKay, WSP, UK / chair Organising. Committee
    - Hans Groot, Deltares, the Netherlands
    - Satish Gupta, Agrosope FAL, Switzerland
    - Ian Heasman, Taylor Wimpey, UK
    - Roger Jacquet, Solvay, Belgium
    - Olivier Maurer, CH2M, France
    - Lida Schelwald, secretary NICOLE ISG, the Netherlands
    - Steve Wallace, National Grid, UK
- NICOLE Secretariat
- Olivier Rubbers, La Chaîne des Terrils, Belgium and the Sustainable Remediation Working Group for the pictures on the report cover
- Becky Wheeler for helping with the report drafting

NICOLE

NICOLE (Network for Contaminated Land in Europe) was set up in 1995 as a result of the CEFIC "SUSTECH" programme which promotes co-operation between industry and academia on the development of sustainable technologies. NICOLE is the principal forum that European business uses to develop and influence the state of the art in contaminated land management in Europe. NICOLE was created to bring together problem holders and researchers throughout Europe who are interested in all aspects of contaminated land. It is open to public and private sector organisations. NICOLE was initiated as a Concerted Action within the European Commission's Environment and Climate RTD Programme in 1996. It has been self-funding since February 1999.

NICOLE's overall objectives are to:

- Provide a European forum for the dissemination and exchange of knowledge and ideas about contaminated land arising from industrial and commercial activities;
- Identify research needs and promote collaborative research that will enable European industry to identify, assess and manage contaminated sites more efficiently and cost-effectively; and
- Collaborate with other international networks inside and outside Europe and encompass the views of a wide a range of interest groups and stakeholders (for example, land developers, local/regional authorities and the insurance/financial investment community).

NICOLE currently has 112 members. Membership fees are used to support and further the aims of the network, including: technical exchanges, network conferences, special interest meetings, brokerage of research and research contacts and information dissemination via a web site, newsletter and journal publications. NICOLE includes an Industry Subgroup (ISG) – with 25 members; a Service Providers Subgroup (SPG) with 41 members; 31 individual members from the academic sector/research community; and 15 members from other organisations, including research planners, non profit making organisations, other networks, funding organisations. Some members are involved in both the ISG and the SPG. For further general information, further meeting reports, network information and links to contaminated land related web sites, please visit NICOLE's web site: www.nicole.org.

Membership fees are currently 3,500 EURO per year for companies (1,750 EURO for smes), and 150 EURO per year for academic institutions. For membership requests please contact:

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Executive Summary

The development of sustainable technologies has always been at the very heart of the NICOLE agenda. It has long been assumed that contaminated land management was by its nature intrinsically sustainable because, for example, it controlled risks from contaminants and facilitated the re-use of Brownfield land so reducing Greenfield redevelopment pressures. However, over the past decade it has increasingly been realised that this simple assumption may not always be true. For example, increasing concerns about fossil carbon use have led to questioning whether it is truly sustainable to apply energy intensive remediation processes to relatively low levels of contamination; and there are similar questions raised about impacts on water and soil functionality. Conversely, the sustainability debate opens up new opportunities, for example linkage of remediation with other beneficial processes, such as linking *in situ* groundwater remediation with renewable energy from ground source hearing and cooling.

NICOLE's vision for this workshop is to help find a greater understanding of what sustainable remediation is and can achieve. The workshop explored what might be meant by "sustainable remediation"; linked this concept to frameworks for contaminated land management, and considered how sustainability can be included in contaminated land management decisions across Europe.

The workshop began with an introduction to the ongoing discussions in the NICOLE Sustainable Remediation Working Group which had set the scene for this workshop, which has divided its work across five segments: Communications (promoting sustainable remediation), Economics (identifying the tools available), Risk Assessment (considering how concepts of sustainable remediation risk based decision making interact), Indicators (considering what factors should be considered in sustainability) and Case Studies. This introduction was linked to a thought-piece considering how sustainability applies to contaminated land remediation. Other NICOLE Working Groups contributed their views about how issues relating to brownfield sites and monitored natural attenuation (MNA) linked to the overall the sustainable remediation debate, and also some views on the sustainability (or otherwise) of European legislation related to soil and waste. Overall, the move to a more sustainable approach to remediation offers a context for integrated thing across different regulatory domains (soil, waste, pollution prevention and control). While there are some positive moves towards a more "joined up" approach, NICOLE remains concerned that opportunities for more sustainable management of contaminated land problems are being lost and has issued a series of position papers to influence the current implementation and revision of Directives related to waste and IPPC, and the drafting of the proposed Soil Framework Directive (FD). A member of the Czech drafting team for the proposed Soil FD reviewed the drafting work to date (however since the workshop this draft failed to reach political agreement).

Several papers considered societal aspects from the perspective of sustainable soil policy, the linkage between ethics and concepts of sustainable development and how that might be applied to derelict land management, and a novel re-use of derelict mining areas for "active" tourism (hiking, cycling, trekking etc) in Belgium and France. As is often the case for contaminated land management issues, effective communication between stakeholders is a pre-requisite for robust decision making. A range of case studies about the stakeholder engagement were presented from Europe and he USA, including former industrial and waste disposal sites for a range of uses including habitat and sustainable urban areas, along with a talk focusing on the mechanics of communication and what is needed to be effective. There is an important difference between providing information, and communication where interaction and response are an integral part of the process. The economic aspects of remediation are, of course, what ultimately drives remediation forward, whether by Private or Public Sector support or by both. This segment of the conference provided some challenging presentations one about how to demonstrate the *value* of sustainability in contaminated land remediation to a potentially sceptical client audience, and a second about managing large land portfolios in Romania. The recent Environmental Liability Directive has crystallised questions of "value" in remedying environmental damage post 2007, and a toolkit for understanding and valuing remediation requirements for compensatory and complementary remedies from the EC REMEDE project was presented.

To close the session, both Pavla Kacabova of the Ministry of the Environment of the Czech Republic presented on the Soil Framework Directive, looking at how sustainability is addressed within it. Although there have been many concerns surrounding this whole issue, since the conference we have heard that the progress of the Directive has been slowed down, after agreement couldn't be reached in the current presidency. The presentations concluded with outlines of the Sustainable Remediation Forum (SURF) in the USA and the more recent SURF-UK, and a talk on the French approach to managing remediation which depends on whether contamination is affecting off site receptors or not.

An interactive session was held over lunch time, in which participants were asked to congregate in country groups, and answer the WG questionnaire as a consensus view for a particular country.

The overall opinion resulting from the interactive exercise was a clear demand for guidance from NICOLE about what economic, environmental and social factors should be considered in sustainability appraisal for remediation decision making, and broad guidance about how it should be undertaken and applied. This might include some overall framework and definitions, checklists and outline guidance such as a road-map. There are many country and project specific sustainability issues, so any NICOLE approach must be flexible to accommodate these and not prescriptive. Most importantly, a common specific list of key performance indicators to be applied uniformly across any and all sites was not seen as helpful. Rather, NICOLE should focus on producing checklists to help decision-makers that they have undertaken well rounded assessments. NICOLE was also asked to provide case studies of the use of sustainable decision making and processes in remediation. A key concern was that NICOLE should use the overarching approach to sustainable remediation suggested to influence the ongoing debate about sustainable approaches to remediation in the drafting of the Soil Framework Directive.

Conclusions

Sustainable remediation needs "sustainable legislation". This means not only the content of the legislation, but the way it relates to other relevant legislation, as well as principles and practices of working. NICOLE will continue to press for joined up thinking at EU and Member State level to provide a consistent approach to soil and waste related regulations as they affect contaminated sites.

Offering a prescriptive and dogmatic view on tools and indicators is scarcely likely to assist a consensus between these different constituencies. NICOLE's approach will be to provide a road map about the *process* of using sustainability in contaminated land decision making and checklists to provide technical support to decision-makers, allowing them to examine suggestions of possible sustainability criteria or factors (indicators) and available tools and techniques in the literature or on the market along with some assessment of their utility.

NICOLE is collaborating closely with SURF and SURF-UK and developing links with the Common Forum to try and develop an international consensus of what sustainable remediation is and how it should be achieved.

The full report provides summaries of the papers given, along with a discussion based on points raised during the meeting, and comments from a number of delegates after the meeting.

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