Regeneration of European Sites in Cities and Urban Environments (R.E.S.C.U.E)

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Abstract

Decline of traditional industries and economic structural change of the 80's caused derelict industrial land ("brownfields") all over Europe and worldwide in particular in urban and industrialised areas. Although there is not yet a precise and legally binding definition for brownfields, there is a common understanding about problems that derelict industrial sites present or create. Brownfields are derelict sites; the land lies still and is unused or only partially used. They often present real or perceived contamination problems, adverse effects to the quality of urban life and require public specific requalification measures in order to be able to reinsert them back into local or regional economic cycles. Brownfields often represent an entire part of a city's structure.

Today, the management of the increasing amount of derelict land in inner city locations is one of the most important issues, traditional industrial regions in industrialised countries as the United Kingdom (North-East of England, East Midlands), France (Lorraine, Nord-Pas de Calais), Germany (the Ruhr in Northrhine-Westphalia, lignite mining areas in Eastern Germany) and Poland (Silesia) have to tackle.

Derelict industrial sites represent a particular challenge for national and regional policymakers: indeed, the degradation of groundwater, ecosystems and landscapes is often twinned with severe loss of jobs, and, as a corollary of this, the decline of the neighbourhoods of the derelict sites or even the whole cities. These effects destabilise and depress urban communities, which often find themselves in a downward spiral of cumulated environmental, social and economic problems. In European traditional industrial regions, strategies and programs for derelict land reclamation and economic revitalisation have been launched and large amounts of EU funds spent on urban regeneration in the past years.

However, despite all these efforts, there is no review of the effectiveness of projects funded and in particular no attempt to learn lessons to inform future strategic thinking, funding and encouragement of urban regeneration. There still is lack of information on confirmed tools, on how to perform best practice in brownfield redevelopment. Taking into account the ongoing consumption of open space for housing, retailing and industry, it is well known that sustainable environment cannot be achieved without re-integrating derelict land into the property markets and encouraging development in central urban locations.

The challenge of integrating Accession States and regenerating disadvantaged areas of Europe in the context of globalisation opened up a new dimension of the problem. Future urban policy requires a higher degree of strategic decision-making and integration than in the past. These stakes became particular obvious to the brownfield working group of the *Contaminated LAnd RehabIlitation NETwork* (CLARINET).

Thus, this working group took the initiative to motivate a consortium of 14[1] partners from the United Kingdom, Germany, Poland and France to design a research project in this area. The project is entitled *Regeneration of European Sites and Cities in Urban Environments –* ***RESCUE.*** It is currently funded by the fifth framework program of the European Commission.

[1] appendix 1

SUBJECT OF THE PRESENTATION

The presentation will outline content, objectives and intermediate results of the RTD Project RESCUE.

A) OBJECTIVES[2]

The main objective of RESCUE is to develop and test a systematic approach for sustainable "regeneration" of urban brownfields in Europe.

As this objective concerns exceedingly complex matters, only a holistic approach can encompass topics relating to the projects themselves (technical preparation of the site, urban design on the site, management of the process), issues related to the overall-context of urban development and planning and its socio-economic implications, and finally, to the projects' implications onto sustainability.

This approach aims at improving sustainability of the environment and quality of life in urban areas. It aims at developing sustainable and cost-effective tools and strategies for requalification of contaminated land that can be used by stakeholders, spatial planners, real estate owners, architects, engineers, consultants and public authorities, involved in complex processes of derelict land recycling.

The underlying principle for the entire project is the development of a precise definition of sustainability in terms of criteria and indicators, related to urban planning and brownfield regeneration.

In this context, the scientific aim of RESCUE is the derivation of criteria and indicators for the sustainability of brownfield redevelopment including :
- cost reduction for contaminated soil remediation,
- cost effective recycling procedures of construction materials,
- ecologically sensitive disposal systems,
- densification in use of urban space,
- content of public areas and social structures.

These criteria will be the general baseline for the development of tools for the decision-making process on different acting levels of the process. The tools to be developed will be divided into project and planning tools and furthermore incorporated into the desired holistic system approach.

Project tools are considered as 'hard skills' in terms of concrete measures, related to specific brownfield redevelopment projects. They encompass:
- tools for the use of brownfields, including construction applications,
- tools for soil management and contamination treatment,
- criteria for the maintenance and/or the dismantling of redundant buildings and installations,
- tools for cost minimisation concerning maintenance, modernisation and replacement of infrastructures,
- tools to reduce the use of primary raw material and to increase the recycling rate of construction related waste, soils and process residues, and
- tools for the management of brownfield projects.

Planning tools are considered as 'soft skills', focussing on spatial and socio-economic effects that can be achieved by regenerating brownfield sites. They are required in order to meet standards of sustainable development for brownfield implementation projects.
They encompass
- sustainable land re-use,
- sustainable urban design
- methods for citizen participation

B) METHODOLOGY

The main methodological approach of RESCUE is to analyse and evaluate current practice of brownfield re-development in traditional industrial core regions in France (Nord-Pas de Calais), in the United Kingdom (Derbyshire, North-East of England), in Poland (Silesia) and in Germany (Ruhr Area, Southern District of Leipzig), and to derive improvements for applied procedures.

Based on the analysis and evaluation of current practice, the principle idea of RESCUE is to structure research work along the lines of

[2] appendix 2

different topics occurring during the life-cycle of the projects.

In this context, RESCUE distils best-practice approaches at reduced costs and defines new methodologies, procedures and instruments for a sustainable regeneration of European industrial brownfield areas.

In order to be able to cope with the complexity of the subject and the desired holistic approach, the regeneration process will be broken down into main steps of decision-making and analysed along transnational workpackages.[3]

By means of this, the topics relevant for brownfield re-development are tackled in a 4-step approach :

1. Analysis and critical review of the current project practice in the participating countries ;
2. Assessment of the analysed procedures in terms of sustainability ;
3. Identification of strengths and weaknesses ,
4. Derivation of improvements towards greater sustainability in brownfields projects : development of best-practice approaches.

The workpackages will be internationally processed by a multi-disciplinary expert team, integrating the specific competence of planners, architects, engineers and environment specialists.

Moreover, the research teams are constituted in a way as to represent different levels of interest in regeneration process encompassing : stakeholders, scientists and professionals. By means of working along problem-related topics, that need decision-making in brownfield regeneration, guidance is given to focus immediately on solution orientated results in each workpackage.
In order to facilitate international availability of the results and support dissemination, all deliverables of the individual workpackages that are meant to "public" will be put onto the RESCUE-homepage in the internet.

It will also develop sustainable and cost effective tools for the practical work of real estate owners, planners, architects, engineers, public entities, involved in complex processes of derelict land recycling.

The prerequisite for the 4-step analysis is a measurable yardstick, creating the link between sustainability and brownfield regeneration :
- What does sustainability mean for brownfield re-development ?
- What is required for brownfield projects, to be "sustainable" ? What are the conditions for qualifying brownfield projects as "sustainable"?
In the past, this necessary yardstick to assess the recycling of derelict land in terms of sustainability did not exist. That is why, as a priority, RESCUE has to develop indicators for sustainable land regeneration

Following this principle structure, RESCUE is structured in four phases :

- Phase I : Development of an analytical sustainability framework
- Phase II : Analysis and evaluation of the current practice in brownfield regeneration, development of tools
- Phase III : International validation and adoption of tools
- Phase IV : Manual of a European system approach of sustainable brownfield regeneration

In the final fourth phase, the results will be published in a Manual of a European System Approach for Sustainable Brownfield Regeneration. This Manual will provide both, scientifically and practically tested guidance as well as substantial decision-making tools for stakeholders, public administration and financial funding bodies.

The checklists, performance indicators, evaluation criteria and examples of best practice etc., generated in RESCUE will be disseminated throughout the European Community and the E.U. Accession States to scientific networks and end-users, such as real estate owners, planners, architects, engineers, public entities and public and private financiers. Moreover, the results aim at supporting the formulation of European policies in derelict land recycling programs as well as future decision-making on public funding of brownfield projects.

[3] appendix 3

C) Intermediate results

Kicked off on March 1st, 2002, R.E.S.C.U.E. runs for 36 months. In May 2003 (SUDBURY 2003), the development of an analytical sustainability framework (Phase 1) was completed. This framework will be operationalised by sustainability objectives, representing, for each workpackage the whole process of sustainable brownfield redevelopment. These objectives will be concretised and measured by sustainability indicators, constituting a basis for the above named guidance for stakeholders in decision-making within a brownfield redevelopment project. Until Autumn 2003, the applicability and practicability of these objectives and indicators will be tested and evaluated in the course of the analysis and assessment of the selected pilot sites within the four European countries.

Appendix 1

Composition of the RESCUE consortium

France

- Bureau de Recherches Géologique et Minières (BRGM), Environment and Process Division, Orléans
- Mission Bassin Minier Nord-Pas de Calais (Land-Planning and Development Agency of the Nord-Pas de Calais Coal Basin), Oignies
- University of Sciences and Technologies, Earth Sciences, (Université des Sciences et Technologies de Lille Sciences de la Terre (USTL 1), Lille
- National Center for Scientific Research (Centre National de la Recherche Scientifique), Lille

Germany

- GPE Gesellschaft für Projektmanagement und Grundstücksentwicklung mbH, Dortmund (Co-ordinator)
- German Environmental Agency (Umweltbundesamt), Berlin
- University of Bochum, Centre for Interdisciplinary Ruhr Area Research (ZEFIR), Bochum
- Projektgruppe Stadt + Entwicklung, Leipzig

Poland

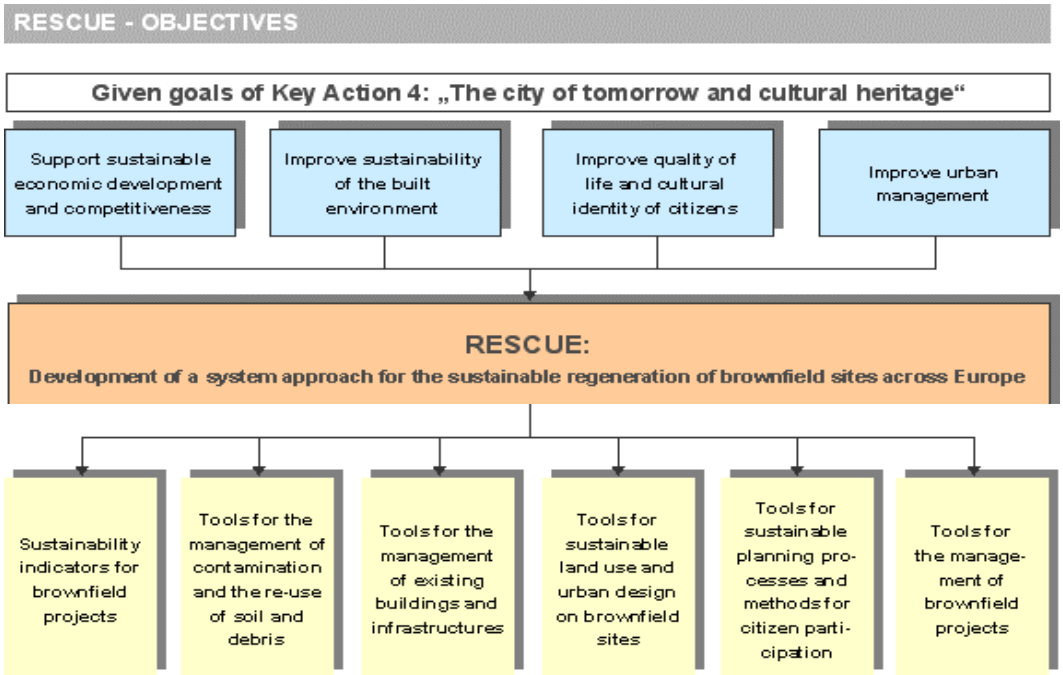
- Central Mining Institute, National Centre for Implementation of Cleaner Production, Katowice
- Municipality of Bytom
- Municipality of Sosnowiec

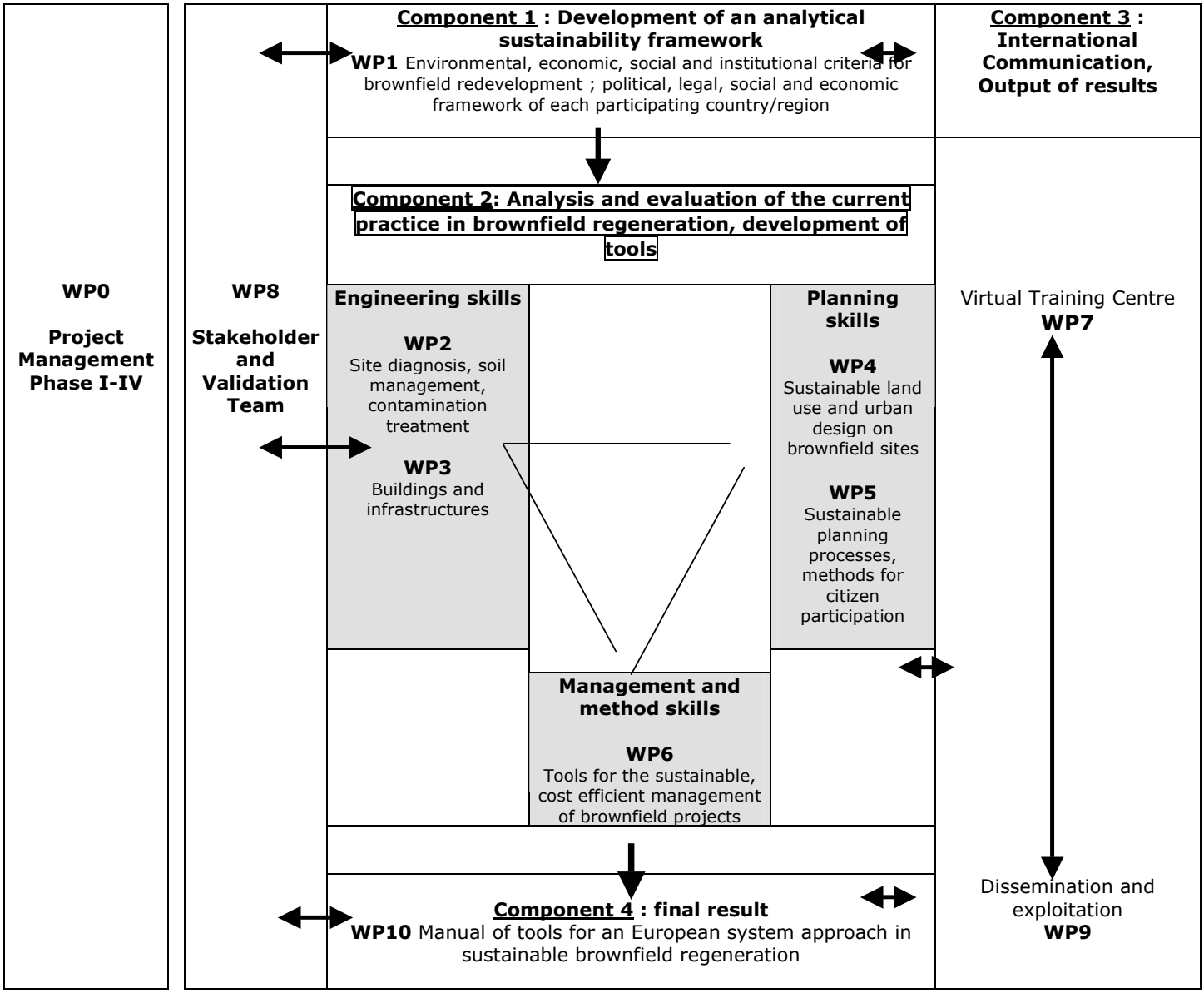
United Kingdom

- ExSite Research Ltd., Halifax
- The University of Nottingham, School of Chemical Environmental and Mining Engineering, Nottingham
- University of Wales, The Geoenvironmental Research Centre, Cardiff School of Engineering, Cardiff

Appendix 2

RESCUE Objectives



Appendix 3

RESCUE WORKPACKAGES