NORDROCS 2014 conference

EU Legislation applying to Contaminated sites management and future needs

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Introduction

Contaminated land policies started to be developed when several incidents attracted major media attention (Love Canal, USA or Lekkekerk, the Netherlands). Three types of national policies were successively generated:

- a systematic approach (inventories, protocols) with a drastic control of soil contamination, in the early 80s,
- around 1990, a contaminated land and risk assessment approach, with a real focus on land use as the main criteria for assessing and decision-making,
- Since 2000, a risk based land management (RBLM) and solution design, which integrates spatial planning, soil & water management, socio-economy issues.

Some European Member States have already decided to implement the RBLM concept in their national legal framework (e.g. the Netherlands, France, Austria) while other are just changing from the source control approach to risk assessment.

More recently, the regulatory environment at the European level is evolving rapidly and different European legal documents aim to take soil issues into consideration. Some evolution is already foreseen for being able to tackle the upcoming societal challenges (e.g. increasing demand on natural resources / energy / food, urbanisation and related infrastructures, climate change mitigation).

The EU legislation and regulations impacting contaminated sites management

Currently more than 15 EU texts have soil provisions impacting therefore the contaminated sites management (cf. figure 1). This dispersion of EU soil provisions causes difficulties in transposition and implementation in the Member States.

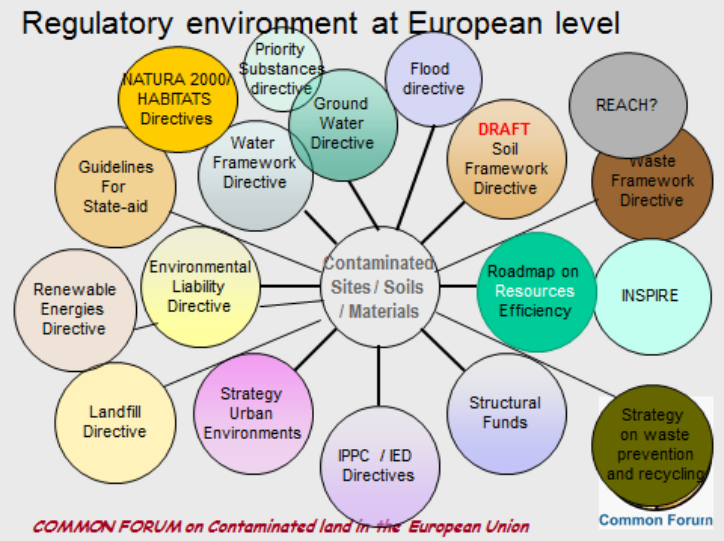
In 2007 a **Soil Protection Strategy** has been published with four pillars:

(1) Framework legislation with protection and sustainable use of soil as its principal aim;
- A draft Framework directive on soil protection was proposed in 2007 and it's still under discussion: Some experienced Member States have main concerns on the recent developments of EU legislation related to soil issues.

(2) Integration of soil protection into other policies
- Revision of the Sewage Sludge Directive, the Industrial Emission Directive, the Waste Framework Directive, the Environment Liability Directive
- Integration of Soil Provisions in new EU legislation such the Renewable Energies Directive, or new strategies (Biodiversity, Climate Change, Rural development Plans),
- Development of the Environmental reporting under the INSPIRE Directive,
- Development of the Resource Efficiency Roadmap,

(3) Closing the recognized knowledge gap by Community and national research programmes;

(4) Increasing public awareness of the need to protect soil.



The ***Soil Protection Draft Directive*** is blocked at the European Council level since the last discussions under the Spanish Presidency in 2010. No official working party has been planned by the current or the upcoming EU Presidency. That's why the European Commission, in its 2013 REFIT communication considered the possibility of withdrawing the proposal of directive.
Nevertheless, in light of the desire of many Member States to have a framework directive for soil, and convinced that common grounds could be found; a "special task force" of Common Forum members from some Member States was established in July 2010. The task force discussed the reasons for not being able to reach agreement in Council and proposed amendments to the draft Directive. Experts on soil degradation processes worked collaboratively to develop an alternative framework wording on dealing with contaminated sites using proportionate and focused actions (CF, 2011). As an alternative the objectives can also be achieved through a strengthened Soil Thematic Strategy without legislation at the EU level, including improving knowledge exchange within a Europe of regions.

The ***Industrial Emission Directive*** adopted end of December 2010 revises and merges 7 existing directives in one, of which the Integrated Pollution Prevention and Control (IPPC) directive. The main changes introduced in this new directive are:

- New industrial activities are covered (20-50 MW combustion plants, wood production, etc.)
- Some emission limits are revised (stricter limits for nitrogen oxides and sulphur dioxide by 2016)
- To receive a permit, IPPC / IED installations must realise a baseline report and apply "Best Available Techniques" (BATs) to optimise their all-round environmental performance
- Emissions to air, soil or water, as well as noise and safety are all considered
- There are new Site closure and remediation procedures.

Most of these changes have soil provisions that will impact national legal frameworks, in particular:

a) The baseline report on all sites where activity involves the use, the production or the release of relevant hazardous substances and having regard to the possibility of soil and groundwater contamination (to be established before starting operation of a new installation or before the update of an existing installation),
b) A periodic monitoring is required in the permit of each individual installation, at least every five years for groundwater and ten years for soil.

c) A remediation should be done at the closure of the site, upon definitive cessation. The State of soil and groundwater contamination must be assessed and compared to baseline report, and measures to return the site to state of the baseline must be implemented taking into consideration technical feasibility.

The ***Environment Liability Directive*** (ELD) shows also some important challenges, such as the integration of this liability regime with the existing ones at national / regional scales, the definition of water and land damage (vs. existing threshold values in MS), the relevance of limit values.

Future needs

The third generation of national/regional policies is based on the Risk – Based Land Management (RBLM) concept developed by CLARINET (2002). It emphasized on sustainable solutions, for recovering the usability and economic value of land and integrating protection of environment quality. According to CLARINET such solutions needs to account for three core elements:

1**] Suitability for use –** *the fitness for use principle is used to ensure the safe use or reuse of contaminated sites by preventing unacceptable risks for citizens and the Environment;*
2] Protection of the environment *on the basis of the stand-still principle (no more degradation, and if possible improvement of the quality of soil and groundwater).*
3] Long term care

The ***"Risk Based Land Management"*** approach provides already a framework for integrating two key decisions:

- **The timetable for remediation:** Priority setting based on present risks and environmental needs as well as societal and economic needs to redevelop contaminated land;
- **The design of the solution:** The best strategy to meet all requirements in a sustainable way, including environmental side effects, available space and facilities, local perceptions, etc.

Moreover besides directives addressing soil protection several other policies introduce further challenges like the new Resource Efficiency roadmap and the climate and energy targets for 2020, which are committing Europe to transforming itself into a highly energy-efficient, low carbon economy, while de-coupling of resource use and waste generation from economic growth. First initiatives were taken for greening remediation and introducing sustainability in contaminated land management. Practical experiences in some EU countries also indicate that the concept should be refined in particular on the following issues:

i) The choice and design of remediation solutions for singular sites, increasing the focus for developing a better understanding regarding green, eco-efficient, sustainable management; The time scale for any project should also be adapted to the time needed for assessing the efficiency of the actions taken at the relevant geographical scale.
ii) Better integration and synergies between the different management phases, in particular risk assessment, decisions regarding remediation specification and strategy, and its implementation (risk management phase); Any new approach integrating sustainable remediation issues will need to inform and raise awareness among stakeholders to prepare its acceptance.
iii) In some areas river basin or more regional approach are recommended when several contaminated sites impact the environment or public health ; the scale of the reference unit will influence the nature and the number of stakeholders to include in all discussions. The interests

of many stakeholders should be integrated in the remediation or redevelopment project process.

iv) Understanding natural capacities and ecosystem functions to identify sustainable land use options for the medium – long term (so called land eco-services).

Therefore a concept for this 4th generation of policy, "a risk-informed and sustainable land management", should integrate three key principles: being risk-informed, managing adaptively and taking a participatory approach. Sustainable Remediation of soil, sediment and groundwater involves the assessment and management of significant risks to human health and the environment, in a manner that identifies the environmental, social and economic benefits and impacts of remedial strategies and options, and which seeks to maximise the overall benefit through a balanced, evidence-based and transparent decision-making process.

It is important to note that sustainability needs to be incorporated alongside effective risk-management. Decision-making based on sustainability principles can lead to: a more efficient use of environmental, social and economic resources; better remediation solutions balancing impacts and effects of different remediation measures, and; enhanced land management for the long term.

To look out for gaining a better common understanding and building consensus within Europe discussions started identifying different options on the way forward:

- to develop of a joint position paper with the relevant stakeholders. This has been achieved by Common Forum and NICOLE (industries and service / technologies providers network) in 2013;
- to establish a new task and working group within the International Standards Organisation at the Technical Committee ISO TC 190 "Soil quality" (approved in November 2012 – on-going);
- to develop a CF guidance document on this concept.

References

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