

INTERNATIONAL COMMITTEE ON CONTAMINATED LAND

QUESTIONNAIRE ABOUT LEGAL FRAMEWORK FOR SOIL/SITE CONTAMINATION MANAGEMENT

COUNTRY: Germany

CONTACT FOR FURTHER INFORMATION:

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OVERALL CONTEXT

1. Does your national policy have a specific definition of “contaminated site”, “contaminated soil”? If yes, please provide the definition.

Yes, a definition of “contaminated site”. Our Soil Protection Act (SPA) says:

Contaminated sites (Altlasten) within the meaning of this Act are:

1. *closed-down waste management installations, and other real properties, in/on which waste has been treated, stored or landfilled (former waste disposal sites), and*
2. *real properties that house closed-down installations, and other real properties, on which environmentally harmful substances have been handled, ... (former industrial sites), that cause harmful soil changes or other hazards for individuals or the general public.*

Harmful soil changes are harmful impacts on soil functions that are able to bring about hazards, considerable disadvantages or considerable nuisances for individuals or the general public.

2. Is Groundwater included in this definition?

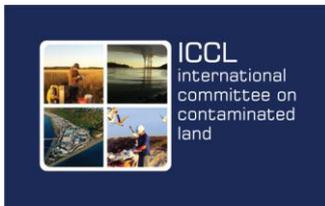
“Yes” and “No”

No:

Groundwater is not a part of the soil and therefore is not part of the site.

Contaminated sites are those causing harmful soil changes; the definition of soil excludes groundwater.

(Definition of “soil” in the SPA: “Soil within the meaning of this Act is the upper layer of the earth's crust, as far as this layer fulfils the soil functions mentioned in paragraph (2), and including its liquid components (soil solution) and gaseous components (soil air), except groundwater and beds of bodies of water.”)



Yes:

Pollution of water resulting from contaminated sites has to be remediated.

(SPA: “The party who caused a harmful soil change or a contaminated site, and his universal successor, as well as the relevant property owner and the occupant of the relevant real property, shall be obligated to remediate the soil and contaminated sites, and any water pollution caused by harmful soil changes or contaminated sites, in such a manner that no hazards, considerable disadvantages or considerable nuisances for individuals or the general public occur in the long term.”).

3. Does your policy on contaminated sites/land/soil include other definitions (i.e. brownfield, sediment)?

There are no definitions of “brownfield” and “sediment” in the soil protection regulations.

4. Which sources are you considering? Industrial operations? Transport? Urban contamination? Etc.

Contaminated sites may result from:

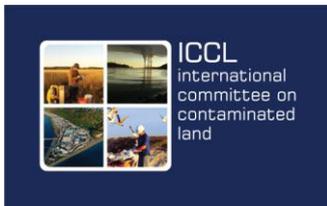
- waste management and,
- Installations in which environmentally harmful substances have been handled.

But The German soil Act considers other soil threats in the meaning of soil changes.

LEGAL FRAMEWOK

5. Does your country have legislation with respect to contaminated land management?
 - a. Whatever the situation is, please be precise if it’s a specific or a common legislation, if integrated in a more general one (including prevention of emissions, soil protection, land planning, environment & health, etc.)
 - ... is integrative part of the German soil protection act with a main chapter
 - b. If there is no legislation, please be precise how you tackle the problem.
 - c. What are the main policy objectives?
 - To avoid hazards for human beings and for the environment, with a serious perspective to the groundwater contamination as well.
 - d. What are the foundational principles on which the national policy is based? (e.g., polluter pays, risk-based, fit-for-use, stand-still, transparency, ...).
 - Polluter pays, within the scale of hazard prevention, additionally land owner responsibility
 - Risk and use related

6. What is the Chain of Liability for the management of contaminated land?



- a. Polluter? Land owner? Last operator? Occupier?
There is no legal binding chain; it is matter of decision by the competent authority, liable might be polluter, (last) owner, occupant or user.
 - b. Is there any difference between new and historic contamination?
There is a difference regarding acceptable measures. Article 4 (5) SPA:
“If harmful soil changes or contaminated sites have occurred after first of March 1999, pollutants shall be eliminated, where this is a reasonable requirement with respect to the previous soil pollution.”
If harmful soil changes or contaminated sites have been caused earlier than first of March 1999, decontamination (elimination of the pollutants) and containment are equally applicable for remediation.
 - c. Can a responsible party pass on the liability to a purchaser? (under statutory law? Contractually?)
Only contractually; the polluter and the former land-owner legally remain responsible.
 - d. Do you separate the obligation to remediate soil pollution and the liability regarding the damage caused by soil pollution and the related remediation measures?
Usually not, however if no obligor can be determined, the public sector has to bear the costs for hazard prevention.
 - e. Are you facing specific situations (e.g. privatization of the industrial activities, war impacted areas, ...) needing special programme?
We do have programmes where the federal government is liable as the legal successor of the former GDR.
7. Are there any specifications at regional / local level?
Yes. In Germany the general competence and execution is given to the Länder level. The federal regulations completed by Länder regulations/approaches/programs.
 8. Are there specifications for site closure?

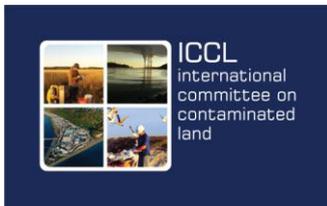
Section 5 (3) of the Federal Emission Control Act says:

“Installations subject to licensing shall be constructed, operated and closed down so as to ensure that even after cessation of operation,

- no harmful effects on the environment or no other hazards, significant disadvantages and significant nuisances to the general public and the neighborhood may be caused by such installation or the surrounding premises;

- existing wastes are orderly and safely recovered or are disposed of without impairing the public welfare and

- restoration of the site to proper condition is guaranteed.”



9. Is there any legal requirement to conduct investigation for potential contamination in the sale of the property?

No

10. Does your national policy have any kind of inventories/registers? If yes, please be precise regarding which sites are registered, how the data are collected and if the databases are public.

Article 11 of the SPA says:

“The Länder may issue provisions regarding identification of contaminated sites and of sites suspected of being contaminated.”

This means that the Länder have their own inventories.

Generally registered are former waste disposal sites and former industrial sites, if they (possibly) cause harmful soil changes or other hazards for individuals or the general public.

Information can be obtained if a reason to obtain this information can be proved.

11. What are the strong, weak points and the major bottlenecks with respect to the current regulations in your country?

We apologize for not having an answer here.

TECHNICAL ISSUES RELATED TO THE LEGAL FRAMEWORK

12. Are there site investigation requirements?

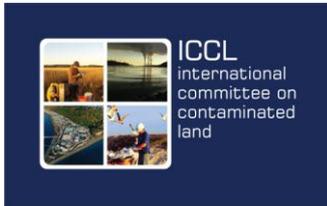
Article 3 (3) of the Soil Protection Ordinance (SPO) says, when an investigation is necessary:

“Where evidence pursuant to paragraphs (1) or (2) exists, the suspected site or site suspected of being contaminated shall, after being registered, be subjected to an exploratory investigation first.”

together with Article 3 (1) SPO:

“Evidence of the existence of a contaminated site at an abandoned industrial site shall be deemed to exist in particular where pollutants were handled on given plots of land over an extended period of time or in significant amounts and where operation, management or other methods used in the individual case or disturbances of proper operation suggest the existence of significant inputs of such substances into the soil. At abandoned waste deposits, such evidence shall in particular be deemed to exist in cases in which the type of operation or the time of closure suggest that the waste was not properly treated, stored or deposited.”

The details, which elements an investigation should comprise, are in the following paragraphs and especially in the annexes of the SPO.



13. Are Risk Assessment & Management the main tools?

In Germany risk assessment is not handled as a standardized algorithm, tool or computer program, but the principles are implemented to determine the demand to avoid hazards and, if necessary, to select a proper remediation approach.

14. Are there specific technical approaches used?

- a. For Human Health (HH), Ecosystems, Groundwater (GW), Surface waters (SW), other targets (i.e. buildings, infrastructures, ...please be precise).

Yes, for human health, for plants and for groundwater

- b. On a site by site specific approach, or by derivation of guideline values? If possible, please detail your answer.

The concept of the trigger levels is a mixture: fixed values as triggers (if exceeded) to step into a site specific assessment.

- c. Do you take into consideration others sources of pollution in the risk assessment?

Yes, to a certain degree. Background levels are considered. Upstream contamination of groundwater is considered.
The derivation of the trigger levels for human health is based on the assumption that soil pollution contributes 20 % to the hazardous substances exposition. 80 % is reserved for other sources.

15. If the national policy uses guideline values, please be precise in describing the following points:

- a. Reasons for derivation of generic values

The purpose of the use of trigger levels is to early sort out the harmless cases and to concentrate the efforts on the problematic cases.

- b. Objectives / levels of implementation (investigation, risk assessment, remediation)

The guideline values are used for investigation and risk assessment, the remediation goals are case specific.

- c. Priority substances

Heavy metals, chlorinated hydrocarbons, PAHs, BTEX,
(different in relation to the pathway)



- d. Protocols of derivation (including acceptable risk levels used).

Yes, (“Promulgation of Methods and Standards for Derivation of Trigger Values and Action Values pursuant to the Federal Ordinance on Soil Protection and Contaminated Sites”) with is public.

16. What are the drivers for remediation?

- a. To what level is clean-up required? (i.e. acceptable risk, land use values, ...)

Hazards for human health or the environment in general. In specific cases a new investment at a site might be a driver too!

- b. Does your national policy use cost-benefits analysis for the choice of the remedial solution?

A cost-benefit analysis is part of the case by case used principle of proportionality. Such an analysis is an integrative part of a usual remedial investigation. The more complex and costly a case is the more detailed will be the cost-benefit analysis.

17. What are the main remediation strategies or treatment techniques used in your countries (including Natural Attenuation)?

- a. Distribution of techniques?

In 2012, 8 thermal, 22 physico-chemical (soil washing) and 60 biological soil treatment plants with an installed capacity of about 7 million t are operated stationary in Germany. The capacity of biological systems shows a significant increase. In the thermal and soil washing plants, however, a visible reduction in capacity is to be noted. For semi-mobile, mobile and site specific installations no further statistical data available.

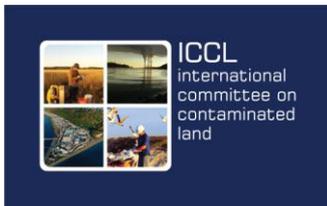
- b. Evolution in time?

Pump and treat for groundwater and excavation for soil are still leading. However innovative techniques are advancing! As a trend, a more positive readiness from authorities to accept innovative techniques and to consider natural degradation processes mostly together with a source removal. For brownfield rehabilitation intelligent soil management is a key.

- c. Acceptance of innovative treatment techniques?

Increasing tendency.

18. Are you considering sustainability in the national approach?



- a. If yes, how? In particular, how the three pillars of sustainability are considered and balanced.

Sustainability is seen as an integrative part within remedial investigation to select the suitable and proportional measure as criteria. There are some tools on the Länder level, but no binding anchored within the legislation.

- b. If no, explain the reasons and the future challenges.

19. How does your country bridge the CLM approach with:

- a. Land planning programmes?

No direct link; however there is a political goal to reduce land consumption until 2020 to 30ha/d. Brownfield redevelopment has to contribute with a significant proportion.

- b. Public health programmes (aggregation of impacts on surrounding populations)

It is possible by SPA to designate affected areas in case of:

- Extensive (in terms of area) harmful soil changes,
 - Extensive exceedance of precautionary soil values or
 - Small scale protection of soils (in terms of types and quality).
- Suitable concepts for administrative execution might be the prohibition or limitation of soil use, capping, planting, etc.

FINANCIAL ISSUES

20. What are the specific practices with respect to “Orphan sites”?

The SPA-regulations about the responsibilities of the parties involved do not allow sites to fall in an orphan status. There is always someone who – as a principle - can be drawn to fulfill the remediation duties.

If those mentioned to be responsible are for different reasons not able to remediate, or if it is (e.g. politically) unwise to insist on the remediation through the land owner, who did not pollute, than the competent authority has to remediate.

Article 25 SPA allows a public encumbrance on the piece of land.

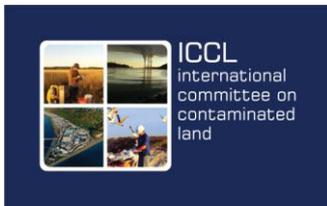
21. Do you have an idea of the annual budget allocated to Soil Contamination Management?

- a. How is it divided between public, private and others?

There are no numbers available on the federal level.

What are the main financial / funding systems in place in your country? (e.g. Financial guarantees, insurance, public – private partnerships, special foundation, industrial consortium, enforcement, ...).

Mainly based on polluter pays principle; There are some (not very attractive) means like interest lowered loans for environmental investments.



Some Länder are using means dedicated to municipal or structural development to stimulate and support remediation.

- b. Between the different steps of management (investigation, remediation, monitoring...)?

There are no numbers available on the federal level.

ORGANISATIONAL ISSUES

22. How are stakeholders and in particular communities involved in the approach?

Usually stakeholder participation - As mentioned the responsibility is on the Länder level. The competent authority is located at the district or the municipality level. With regard to the national adaptation of the Aarhus convention the public and environmental and conservation organizations as well have access to relevant information and could enforce transparency in any case.

Is there a specific approach for:

- a. Brownfields?
- b. Megasites?
- c. Widespread pollutions?
- d. Reuse of excavated soils? (e.g., in relation to their quality)

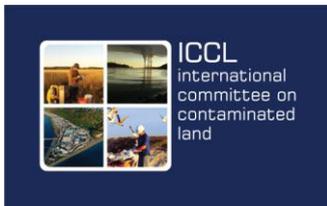
No specific administrative or binding approaches. However from the technical point of view many successful case studies and a lot of practical experiences on the responsible level.

23. Does your national policy include any accreditation system for consultants or service providers? If yes, please provide some details.

Yes, within the SPA article 18 SPA (Experts and Investigating Bodies) is setting the legal basis. "Experts and investigating bodies that carry out tasks pursuant to this Act shall possess the necessary expert knowledge and reliability for such tasks and shall have the appropriate required equipment. The Länder may (and many have already) set forth the details of the requirements pertaining to experts and investigating agencies pursuant to the first sentence of this paragraph, as well as to the nature and extent of their tasks, submission of the results of their activities and the official naming of experts that fulfil the requirements pursuant to the first sentence of this paragraph.

24. Do you have any training / capacity building programme, any management accountability and performance measurement?

The training aspect is also covered in expert requirement. Furthermore Germany has a well organised Scientific-Technical Association for Environmental Remediation and Brownfield Redevelopment (ITVA) offering and organizing training and capacity



building. Furthermore many advanced training courses are offered by universities and privates.

25. How is the necessary inter-governmental coordination for CLM organized? (e.g. with Health Protection Department, with the public site owners, with state or local public sector environmental organizations, with special interest advocacy groups,)

It is organised on the Länder level and slightly different!

CRUCIAL DEVELOPMENTS IN THE FUTURE

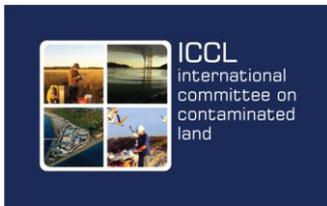
Are there any additional issues to be further developed in the following months/years whatever they are (Research and Development needs, organisational issues, ...)?

Medium-term tasks and measures:

- Contributing to economically and ecologically acceptable solutions to the contaminated sites problem by:
 - innovative and integrated remediation strategies (with a special focus on megasites),
 - criteria and strategies for remediating groundwater degradation due to contaminated sites,
 - adequate consideration to natural attenuation, particularly in the context of remediation,
 - introduce financial and insurance elements in order to ensure that necessary remediation is carried out when a party so obligated does not exist or cannot be called to task,
 - define requirements for soil protection for installations covered by the IED Directive (soil-protection-compliant operation, decommissioning);
- Promoting subsequent use of remediated sites (site redevelopment) as a contribution to reducing land-take to 30 hectares/day:
 - identify approaches under soil protection and planning law to promoting site redevelopment and present formulas for action (e.g. remediation planning pursuant to Articles 13 and 14 of SPA),
 - accelerate the unsealing of sealed ground;
- Creating the basis for minimizing diffuse substance inputs:
 - Qualify and quantify inputs from diffuse sources and diffuse-input scenarios,
 - Create a sound data base and develop harmonized assessment methods for inputs to soil and groundwater from diffuse sources.

Unofficially or officially, do you see any opportunities for collaboration in the coming months or years that may improve overall coordination among international organizations? (e.g., conferences, workshops, international (technical or policy) initiatives, growing alliances (e.g., in support of redevelopment /reuse of contaminated lands, etc.).

Common Forum, ICCL



Cooperation in principle yes, but based on specific topics and project related
Annual Global Soil Week – e.g. joint session with Common Forum and DG ENV in 2013

REFERENCES

Please give most important references (documents, website, projects, and case studies) that could be relevant for explaining your national approach

BMU, 1999; <http://www.bmu.de/files/pdfs/allgemein/application/pdf/soilprotectionact.pdf>

BMU, 1999; http://www.bmu.de/files/pdfs/allgemein/application/pdf/bbodschr_uk.pdf

UBA, 2010 ; Current state and future prospects of remedial soil protection,

<http://www.umweltdaten.de/publikationen/fpdf-l/4041.pdf>

UBA, 2011, Consideration of natural attenuation in remediating contaminated sites,

<http://www.umweltdaten.de/publikationen/fpdf-l/4131.pdf>