

## INTERNATIONAL COMMITTEE ON CONTAMINATED LAND

### QUESTIONNAIRE ABOUT LEGAL FRAMEWORK FOR SOIL/SITE CONTAMINATION MANAGEMENT

**COUNTRY:** FRANCE

**CONTACT FOR FURTHER INFORMATION:** (Name / Email address)

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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.

A contaminated site is a site which conditions hamper the foreseen use.  
This has to be evaluated regarding the soil concentration background values.

2. Is Groundwater included in this definition?

Yes, it is. We are using the ISO definition for soil.

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

France considers that brownfields are different from contaminated sites. The definition of a brownfield site is “previously developed land (agriculture, harbour, industry, service, ore processing, military/defence, storage or transport) that has been temporarily or permanently abandoned following the cessation of activity and must be reclaimed for a future use.” Brownfields can be partially occupied, derelict, or contaminated. (French definition in EUGRIS glossary),

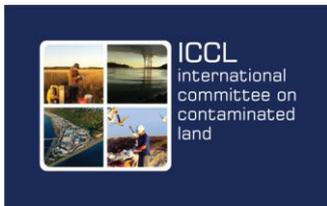
There is no definition for sediment.

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

The sources considered are industrial operations.

#### **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.)

There is no specific regulation or legislation relative to soil pollution in France.

- b. If there is no legislation, please be precise how you tackle the problem.  
The basis of the soil pollution management is included in the legislation for industrial installations. This legislation is much larger than the IED regulation.  
The first legislation occurred in 1802, but the latest major update dates do 1976 and is codified in the Environment Code.  
Concerning polluted soil management, the last update of the methodological tools dates to 2007, and was the basis of the update of French norms on the subject.

- c. What are the main policy objectives?

The main objectives include obligations to prevent pollution, and in case of failure, to remediate pollution, especially at the end of activity.

- 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, ...).

When an industrial activity stops, the former operator is required to put the site in safety and make a soil study to explain how it will remediate the site, in order to remediate in compatibility with the future use.

This policy focuses on two main concepts:

- Risk analysis and management rather than consideration of an intrinsic level of pollution,
- Management based on the use of the site.

There are no threshold values and a case by case study is required.

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

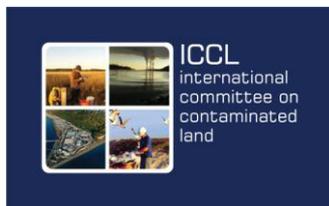
- a. Polluter? Land owner? Last operator? Occupier?

Wherever the polluter is at hand or known, the "polluter-pays" principle is strictly applied. The current chain of liability is: the last industry that is responsible under the law on Environmental Permits for industrial sites; by default, the last owner if it's proved that he is linked to the exploitation. The owner can also be liable for waste elimination. This chain of liability covers studies, monitoring, remediation work, and even costs associated with land-use restrictions (as a result of plant monitoring or residual contamination).

- b. Is there any difference between new and historic contamination?

In terms of regulation, new contamination should be prevented (article 1 of the IPPC law). If prevention fails, the new contamination should be treated under the plant authorisation permit.

In terms of technical principles, new and historical contamination should be considered under the risk based approach as previously presented.



The Environmental Code states that at the end of the operation, the site must be cleaned up in order to not endanger the environment, human health, safety, sanitation, etc. and to allow a future use of the site as decided by the Mayor and the operator, or the owner of the site if there is no operator. Should these parties not find an agreement on the level of clean-up, such level would have to allow a use comparable to the use of the latest operating period, except if such use is not consistent with the use stated by the applicable zoning documents. In such a case, a sensitive use level of remediation may be required.

- c. Can a responsible party pass on the liability to a purchaser? (under statutory law? Contractually?)

At Law level that the last operator is liable for securing the site and for the remediation for a defined use, but some operator contract this liability when they sell the site, but the administration can still ask the former operator to remediate the site.

- 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?

No.

- e. Are you facing specific situations (e.g. privatization of the industrial activities, war impacted areas, ...) needing special programme?

No.

7. Are there any specifications at regional / local level?

No.

8. Are there specifications for site closure?

The first step is put the site in safety.

Then, the general approach for risk management is to identify sources of pollution, pathways and restrictions of the uses of the site. Then the priority is to remove, as far as possible, the source of pollution, then if not possible to cut pathways, and as latest solution, to change use.

We have a hierarchy between measurement and modeling (with all uncertainty).

The last operator has to remediate the site for the use decided after a consultation with the mayor and the land owner if the use is not described in its authorization.

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

No.

The seller has to inform the buyer when the site has been occupied by a classified facility for the purpose of environmental protection, but no investigation is required.

The Law for the national commitment to the environment of 12 July 2010 says that buyers and sellers must be informed about risk of soil pollution, but the implementation decree hasn't been taken yet.



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.

There are 2 kinds of inventories :

- The inventory of contaminated (or potentially contaminated) sites and soil **requiring government action for prevention or remediation** : **BASOL** – Base de données sur les sites et sols pollués (ou potentiellement pollués) appelant une action des pouvoirs publics, à titre préventif ou curatif  
<http://basol.ecologie.gouv.fr>
- **The inventory of former industrial sites and service activities: BASIAS** - Inventaire des anciens sites industriels et des activités de service  
<http://basias.brgm.fr/>

Please note that at this stage of investigation there is usually no indication of existence of pollution on these “Basias” sites. Some recorded sites are reclaimed and redeveloped and as such may not be considered as existing brownfields.

There is no database covering strictly brownfield sites.

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

**Strong points:**

- Strong national policy for the management of pollution generated by industrial activities (and since a very long time), with a distinction between the management of new contamination (to be prevented and immediately remediated in case of failure of preventive measures) and historical pollution (on a risk basis);
- Execution of national policy at a local level for taking care of local conditions and solutions;
- National policy based on risk assessment and risk management (including cost-benefit analysis), taking into consideration long-term issues (for land planning and environmental media protection) in a tiered approach for a better fund consumption, with a control of measures efficiency;
- Management plan for remediating sites includes also water resources protection;
- Existence of public national databases on former industrial activities and known contaminated sites for informing stakeholders and buyers.

**Weak points:**

- Management of contaminated sites not covered by ICPE legal frame (i.e. manmade soil areas);



- Management of excavated soil in urban areas, the land market being the main driver for remediation in France;
- Management of sites without legal liable party;
- Management of areas impacted by several sites, plumes, etc;
- Update of the existing databases.

**Bottlenecks:**

- Transfer of liability for residual actions when a land planner/new owner is acting on behalf of former liable parties.
- How to stop control measures?

## **TECHNICAL ISSUES RELATED TO THE LEGAL FRAMEWORK**

### **12. Are there site investigation requirements?**

A contaminated site represents a risk for the population only if all of the three following elements are present:

- a source of contamination (Source);
- a target population that is exposed to the contamination (Receptor);
- a transfer pathway towards humans and/or the environment (Pathway).

The French Policy for contaminated sites seeks, therefore, to:

- prevent future contamination;
- ensure the safety of recently discovered contaminated sites by acting immediately to confine the site (eliminate all substances that might cause fire, explosion or pollution) and monitoring groundwater ;
- assess, monitor and mitigate impact;
- treat and remediate the site in a manner suitable to its use, and perpetuate this use;
- keep records of contamination and involve all stakeholders.

The information most-readily available during site investigations is usually related to the last known activities (e.g. agriculture, industry, dumps). The other families of pollutants that may be present in the soil must be deduced from the history of the site. When the site's history is not well known, a more extensive study is done to identify as many of the contaminants related to industrial activities as possible and quantify those detected in the soil. This can be done using matrices of activities and pollutants developed for potentially contaminated site management.

### **13. Are Risk Assessment & Management the main tools?**

*Yes.*

### **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).



### ***Human Health***

*Risk assessment can be done using the French Toxicological and Environmental data provided by the National Institute for the Environment and Industrial Risk (INERIS - <http://www.ineris.fr>) (3). The National Health and Environment Plan (PNSE 2004-2008) has focused some actions on specific contaminants:*

- *Action 11: Reduce water and soil pollution caused by pesticides and some potentially dangerous substances (pharmaceutical drugs, hormone disrupting chemicals, etc.);*
- *Action 12: Prevent and reduce the specific risk due to exposure to mercury in French Guiana, and to pesticides in Guadeloupe and Martinique.*

*<http://www.sante.gouv.fr/hm/dossiers/pnse/rapport.pdf>*

*Since 2004, the Ministry in charge of the environment has led a National Action to determine the impact on soils of lead emitted by industry*

*(<http://www.developpement-durable.gouv.fr/Sites-et-sols-pollues-ou.html>)*

*The French government has published methodological guidelines and techniques in order to make its contaminated-land approach coherent and homogeneous. The diagnostic approach is based on soil sampling and analysis for pollutant determination. Gathering reliable pollutant concentration data is an important step in the French risk assessment method as this information is used at various stages of the study:*

- *to identify sources of soil contamination ;*
- *to estimate the concentrations to which local populations are exposed, on or near the site ;*
- *to verify that remediation goals have been reached ;*

### ***ECOSYSTEM***

*The **Management Quality Assessment** approach is a comprehensive management step. The entire procedure is progressive and well-thought-out, and is based primarily on measurements taken in the various exposure pathways likely to pose a problem. This step entails comparing measured data with:*

- *background values for these media or those of nearby natural environments;*
- *current regulatory management values (e.g. Water Framework Directive, Important Bird Area (ZICO), Natural Areas of Interest for their Ecology, Fauna or Flora (ZNIEFF)).*

### ***GW – SW***

*Only from a sanitary point of view.*

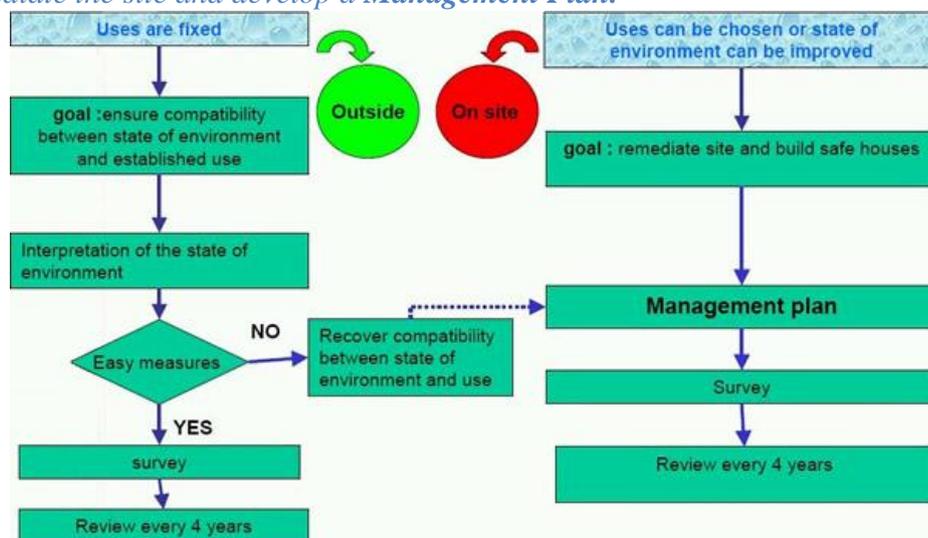
- b. *On a site by site specific approach, or by derivation of guideline values? If possible, please detail your answer.*

*In the French methodology established in 2007, two management steps have been identified:*

- *Step 1: Acquire knowledge and understanding: the conceptual site model (source – receptor – pathway)*
- *Step 2: Undertake actions when required (simple measures or a management plan).*

*Two site management procedures are recommended:*

1. If the future uses of the site have already been decided, determine whether this use is compatible with the state of the environment (**Media Quality Assessment (MQA)** or “*Interpretation de l'état des milieux (IEM)*”);
2. If uses can still be decided upon or the state of the environment can be improved, remediate the site and develop a **Management Plan**.



The proposed management approach takes into account the various possibilities for acting on uses and on the state of the media:

- The **Media Quality Assessment (MQA)** ensures that the state of the media is compatible with proposed uses;
- The **Management Plan** acts, whenever possible, on the state of the site (by modifications or remediation measures) or on the choice of uses.

Depending on the situation, these two tools can be used independently, simultaneously or successively. The execution of both the MQA and Management Plan procedures is broken down into two distinct stages:

First of all, the state of the medium or the site is assessed and a "conceptual site model" -- proposed in management guidelines since 1996 -- is developed. Thereafter, suitable actions are defined based on the results of the conceptual site model.

Consistent with the current health and environmental management system, the **Media Quality Assessment** aims to differentiate between situations where unrestricted use of the media is possible and those that are likely to pose a problem. The MQA approach is a comprehensive management step. The entire procedure is progressive and well-thought-out, and is based primarily on measurements taken in the various exposure pathways likely to pose a problem. This step entails comparing measured data with:

- background values for these media or those of nearby natural environments;
- current regulatory management values (e.g. Water Framework Directive, Important Bird Area (ZICO), Natural Areas of Interest for their Ecology, Fauna or Flora (ZNIEFF)).

The **Management Plan** can be used for change-of-use projects on contaminated sites (whether or not they concern Classified Installations). It is also required for Classified Installations requiring authorization when plants are closed down or sites are remediated, whether or not a similar use is planned. The development of a Management Plan is a



*progressive and iterative process requiring knowledge of the media and their current state, the populations concerned, the natural resources to protect, and the proposed uses in the case of a remediation project.*

*This includes:*

- *legal constraints of any nature;*
- *measures to control the sources of pollution, measures to control impacts;*
- *the management of the excavated soil;*
- *various management measures: remediation (excavation, on- or off-site treatment), active or passive constructive measures, containment, regeneration or natural attenuation;*
- *means of preserving the memory of the contamination (records) and usage restrictions (Basias <http://basias.brgm.fr>, Basol <http://basol.ecologie.gouv.fr>);*
- *monitoring and follow-up of the effectiveness of management measures.*

*These tools are supplemented by **Residual Risk Analysis (RRA)** which determines if uses are compatible with any residual pollution.*

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

French guidelines aim to help place a site in its historical and environmental context and define its vulnerability in terms of soil pollution. The guidelines should be seen as a tool box where methodological tools can be found for site investigation. A site or a contaminated medium will present a risk only if the three following elements are all present:

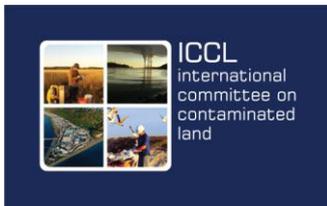
- a source of available pollutants;
- transfer pathways: these are the various media (soil, surface water and groundwater, crops intended for human or animal consumption) that, when in contact with the source of pollution, are contaminated and therefore become sources of contamination. In some cases, these media might propagate pollution without remaining polluted;
- receptors: populations, resources and/or protected natural areas likely to be reached by pollution.

If this combination is not attained, pollution does not present a **risk as long as it has been identified and records are kept of it**. Reports are not enough, however, and management actions must be implemented to preserve lasting records of any pollution and define the suitable actions to be undertaken if the uses of the media are modified. If this combination (concomitance of the three elements: source - transfer pathways - receptors) arises, risks must be assessed in order to determine the possible modes of contamination and exposure times.

**The possible modes of contamination and the exposure times** of local populations to the pollutants are essential parameters for risk assessment. They must be determined from investigations carried out for each site and all nearby media.

The exposure modes can be direct (ingestion of soil, dust or water, inhalation of gas coming from the soil or the groundwater, or inhalation of dust) or indirect (ingestion of contaminated products— e.g. farm produce).

The exposure times that are generally considered, before potentially harmful sanitary effects are observed, are several years (durations of more than 30 years are usually considered). For the population at large, the problems created by contaminated sites and soil are related to the risk of chronic contamination rather than accidental (sudden) contamination. On the other hand, accidental contamination has very rapidly observable potential effects. Modes of



contamination such as soil ingestion by young children can, however, also produce rapidly observable effects on health, i.e. after a few years, or even months.

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

- a. Reasons for derivation of generic values
- b. Objectives / levels of implementation (investigation, risk assessment, remediation)
- c. Priority substances
- d. Protocols of derivation (including acceptable risk levels used).

According to the national methodology for contaminated land management (ministry note of February 8th, 2007 and X31-620 national standard) which recommends a site specific approach, **there are no guidelines values for soil quality in France.**

Nevertheless, according to the Waste regulation (transposition of the revised Waste Directive), some threshold values related to the management of excavated soils have been derived in order to ensure compatibility from the human health point of view between the quality of excavated soils and their reuse on a receiving site. This compatibility must also be verified from the hydrogeological point of view according to a site specific approach.

Threshold values have been implemented for the most current substances, but, only when excavated soils are to be reused in the context of a development project, and only after a specific validation for the local hydrogeological context.

16. What are the drivers for remediation?

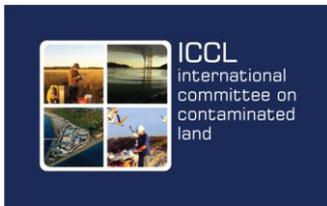
**First and foremost, all possible means of eliminating the sources of pollution and their impacts must be sought.**

If the sources of contamination are not controlled, it is not economically or technically relevant to seek to control the impacts. When it is shown that entirely eliminating the source under technically or economically acceptable conditions is not possible, it is a question of guaranteeing that the impacts of emissions from the residual source or the "residual exposure" are acceptable for the local population and the environment.

Although controlling the sources makes it possible to limit the degradation of the media, this might be insufficient, in some cases, for their use to be authorized without exposing humans to excessive risks. In this case, it is advisable to remediate the site, initially by improving the quality of the media by means of a suitable Management Plan and, if this is not sufficient, by restricting the uses of the media or by taking precautionary measures suited to a new use. This characteristic of the Management Plan is essential in situations where the uses of the media have already been decided.

Once the decision to remediate has been taken, the French policy on contaminated land management does not impose means on the owner – only results. The remediation techniques to be used are not prescribed. The best available techniques at the best economically acceptable cost should be chosen. Once a remediation **scenario** has been decided upon by the government, land owners and consultants, the legal prescriptions must be followed.

Experience feedback from remediation sites sometimes shows dysfunctions in the actual execution of remediation work, which can, in the end, turn out to be in nonconformity with the initially defined objectives.



Worksite supervision is, therefore, necessary in order to verify, as the work progresses that management measures are executed as planned. This must be done by a third party, independent of the people in charge of the remediation.

In a given situation, various remediation techniques can make it possible to reduce the levels of pollution and thereby reduce the risk compared to the intrinsic performance of each process. However, within a context of sustainable development and global environmental assessment, any possible secondary impacts should also be taken into account. Indeed, a solution that is suitable in term of effective reduction of pollution levels can, for example, have impacts:

- as concerns the consumption of resources, emissions of the treatment process itself (e.g. gaseous or aqueous effluents, greenhouse gases), the production of waste, etc;
- by its contribution to the filling up of landfill sites when soil is excavated and disposed of in a waste storage site

Note that the consideration of secondary impacts must be included in the cost-benefit analysis for the development of the Management Plan (the Management Plan is a new tool described in the Ministerial Note of February 8, 2007 concerning Contaminated sites and soils - Contaminated site management and remediation procedures, and in the Ministerial Circular of February 8, 2007 concerning Classified Industrial sites - Prevention of soil contamination - Contaminated site management). Management options involving regeneration or natural attenuation are possible, in some cases, particularly when pollution is diffuse and when the pollutant concentration levels, generally low, are stable or decreasing.

This option is chosen:

- when the elimination of the pollution has been shown to be impossible or when it does not appear to be desirable to continue the remediation work, in light of sustainable development and global environmental assessment ;
- when it is shown that the residual levels of pollution are compatible with the proposed uses or with the media concerned ;
- if it is accompanied by suitable monitoring of the media.

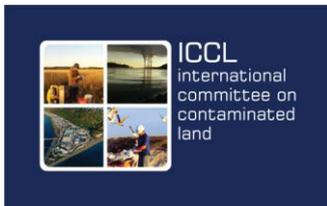
Depending on the case, unending vigilance must be maintained to identify any changes of use and future owners must be systematically informed by means of urban planning or Land Registry documents.

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

It depends on the current use or the future use of the site (fit for use principle).

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

The concept of "cost-benefit analysis" (CBA) has been used in French regulations since 1977. It is implicitly mentioned when the risk management policy recommends the use of the best available techniques at the best economically acceptable cost. The 2007 adaptations of the French contaminated land management approach and, in particular, the introduction of the Management Plan procedure, clearly emphasize CBA.



The objective of CBA is to reach the best level of environment protection for humans and the environment at a reasonable cost, while avoiding the unnecessarily disproportionate use of resources in comparison with the interests to be protected.

New regulations came into force in early 2007. As a result of the application of existing regulations and drawing on the experience gained over more than 10 years of risk management, they introduce new methodological tools – **Media Quality Assessment (MQA)** and **Management Plan and Residual Risk Analysis (RRA)**. These tools make considerable use of Cost Benefit Analysis.

**Cost-Benefit Analysis is now the keystone of the proposed system.**

Rational environmental management requires the quantification of risks and costs. CBA is a tool for decision makers. Before contaminated land is remediated, CBA aims to determine simultaneously:

- the remediation goal, according to the environmental policy;
- Whether the investment can be justified by the expected environmental benefits.

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

Remediation (excavation, on- or off-site treatment), active or passive constructive measures, containment, regeneration or natural attenuation.

##### a. Distribution of techniques?

The distribution between techniques has been estimated for 2006, as such:

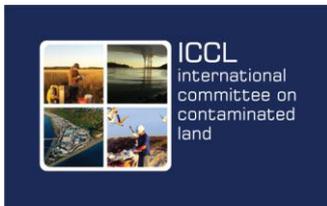
Techniques	Estimation of average tons per year
Landfilling (classes 1 & 2)	800.000
Biocenters	400.000
Thermal desorption (on site, ex situ)	300.000
On site treatment (soil washing, stabilisation, etc...)	300.000
Other treatments (oxydation, separation, ...)	200.000
<b>Total</b>	<b>2 000.000</b>

Ref.: **Etat des lieux sur les pratiques françaises de traitement des sols et des eaux souterraines (et mise en perspective européenne). Rapport final.**  
BRGM/RP-55890-FR (2007)

<http://www.brgm.fr/publication/pubDetailRapportSP.jsp?id=RSP-BRGM/RP-55890-FR>

The distribution between techniques has been estimated for 2008, as such:

Techniques	Estimation of average tons per year
In situ treatment	846.400
Venting (including biological treatment)	645.100
Chemical oxydation	115.700
Containment	76.600
Physico-chemical stabilization	8.000
Soil washing	not determined
Phytoextraction	not determined
Phytostabilization	not determined
Ex situ treatment	1 772.440
Storage facility for inert waste	867.800
Biological treatment	434.000
Storage facility for non-hazardous waste	241.200
Storage facility for hazardous waste	63.800
Thermic desorption	62.600
Cement production plant	44.300
Physico-chemical stabilization	33.300
Incineration	17.600
Soil washing	7.800
On site treatment	653.900
Physico-chemical stabilization	370.900
Venting (including biological treatment)	197.600
Containment	69.000
Soil washing	12.000
Thermic desorption	3.500
Total	> 3 272.740



Ref.: Ernst & Young – 2011 – ADEME web site

<http://www2.ademe.fr/servlet/KBaseShow?sort=-1&cid=96&m=3&catid=12745>

The most widely used techniques (except containment and disposal) have been developed in priority. Incineration, disposal in cement production plant and emerging techniques, except phytoremediation, are not developed at the moment.

#### b. Evolution in time?

The BRGM study confirms that ex-situ techniques that are still mainly used (55 % of the tonnage in 2008). The trends for 2008:

- in 2008 all treated volumes increased by 22% for soils and by 37% for waters compared to 2006,
- decommissioning material toward storage facility for inert waste and the physico-chemical stabilization on site experienced very strong growth between 2006 and 2008,
- biological treatments represent a significant market part with treated tonnages relatively stable between 2006 and 2008 (venting / bioventing, biological treatment plant (biocentres) and biodegradation on site),
- within the in situ treatment, the most used techniques are in situ venting / bioventing and to a lesser extent in situ chemical oxidation (ISCO),
- the treatment process in cement production plant remained very stable between 2006 and 2008,
- the study of techniques one by one for groundwater treatment shows a very high variability of treated volumes from one year to another,
- Costs are globally decreasing or vary little.

#### c. Acceptance of innovative treatment techniques?

Since 2006, some emerging technologies asserted themselves: in particular, chemical processing techniques such as in situ oxidation / reduction are maturing. These techniques are better handled by the relevant actors (problem owners and technologies providers); in particular, the by-products from processing are increasingly under control, improving the acceptability of these techniques by stakeholders.

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

The French national policy of contaminated soil management relies on a proportionate and balanced approach. The French methodology main principles are : prevention of pollution, fit-for use, and comparison with geochemical reference values at local scale. The cost-benefit analysis is also taken into account in the management process.

The methodology can be adapted case by case at the local level if the main principles are respected.



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

a. Land planning programmes?

For the moment only land use restriction and contaminated land record can be included in the local urbanism documents in case of public utility easement (Servitude d'utilité publique). The ministry of ecology works on a law project to make the contaminated sites integrated in the local land planning plans.

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

The second National Health and Environment Plan (2009-2013) :

Action 34 : strengthen contaminated sites management

1/ Increase by one quarter the resources allocated to the management of orphan sites.

2/ Finalize the inventory of potentially contaminated sites : bringing together different databases quality of existing soil sites.

3/ Remediate closed gas stations that cause soil contamination.

4/ Identify "sensitive buildings" (nurseries, schools, colleges) built on potentially contaminated sites, assess the risk and, if necessary, define and implement management plans.

Cross the inventory of historically are potentially contaminated sites with the inventory of abstraction of drinking water.

## **FINANCIAL ISSUES**

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

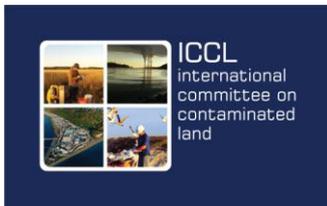
The remediation of orphan sites is funded by a tax created in February 1995 concerning hazardous industrial waste. The **Law of February 2, 1995** created a tax on special industrial waste to finance the remediation of "orphan" sites or sites whose owners are insolvent.

The moneys collected and managed by ADEME, the French Agency for Environment and Energy Management, are allocated to investigations and clean-up work. Initially set at € 3.8 per ton of industrial waste, the tax was increased to € 6.1 per ton in 1998. Revenues from this new tax amounted to about € 10.5 M the first year and had increased to € 15.3 M by 1998. A national committee manages this Industrial Waste Tax and has funded 37 projects at orphan sites, for a total cost of approximately € 30.5 M. In 1999, this tax was included in the TGAP (General Tax on Polluting Activities). Remediation is limited to mitigating actual or potential risks to the environment and human safety.

In the annual budget for the reclamation of orphan sites is around 30 Million euros, completed by 8 M euros for some brownfield reclamation.

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?



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

No information.

## **ORGANISATIONAL ISSUES**

22. How are stakeholders and in particular communities involved in the approach? Communities are associated for the future land use choice and for the elaboration of land use restriction on contaminated sites.

23. Is there a specific approach for:

- a. Brownfields?

France considers that brownfields are different from contaminated sites. The definition of a brownfield site is, "previously developed land (agriculture, harbour, industry, service, ore processing, military/defence, storage or transport) that has been temporarily or permanently abandoned following the cessation of activity and must be reclaimed for a future use." Brownfields can be partially occupied, derelict, or contaminated.

- b. Megasites?

In France, the management of former megasites is coordinated by Public Land Management Authorities.

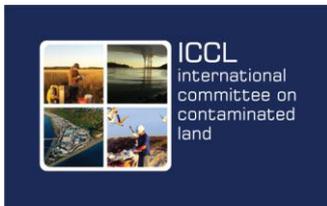
- c. Widespread pollutions?

No.

- d. Reuse of excavated soils? (e.g., in relation to their quality)

The management strategy for contaminated land is based on two management tools: the Media Quality Assessment and the Management Plan. These tools highlight "the correct way to manage" potentially polluted sites. Specific measures for managing large volumes of excavated soil are also given. Nevertheless, the different actors involved in regional planning and urban renewal, whether institutional or private, are regularly confronted to difficulties of excavated-soil management. It was necessary to define rules and methods to guide the sustainable reuse of soil while ensuring human health and environmental protection.

A methodological guide for the excavated soil off-site reuse (for road construction, or development projects) and the related tools necessary to implement at a site this approach are provided to clarify these rules and provide stakeholders a common operational framework. These tools have been developed with the support of working groups composed of a wide range of stakeholders in this field (professional associations, environmental protection association, planners, lawyers ...).



Guide de réutilisation hors site des terres excavées en technique routière et dans des projets d'aménagement - BRGM/RP-60013-FR - Février 2012

[http://www.developpement-durable.gouv.fr/spip.php?page=doc&id\\_article=27486](http://www.developpement-durable.gouv.fr/spip.php?page=doc&id_article=27486)

(Guide of ex-situ reuse of excavated soil in road construction and development projects)

This guide describes the best practices under which certain land may be reused with respect to sustainable development, protection of human health and preservation of the environment. This guide is implemented on a provisional basis for a period of one year, with a special attention of the inspection of Classified Installations for the protection of Environment in 2012. The guidance document may be reviewed at the end of the probationary period based on the feedback received.

After characterization of soils, they can be reused on a receiving site for road construction or redeveloping land if the three following criteria are respected:

- soil quality of the receiving site is maintained;
- water resources and ecosystems are preserved beneath the receiver site;
- Excavated soils are compatible with the future use of the receiver site (only in the context of development projects).

The three criteria are cumulative and independent. Validation of all three criteria is required to validate and go on with the process of excavated soil off-site reuse.

For criterion 3, two cases are possible:

**Case 1.** The substances have threshold values specifically developed as part of this approach: excavated soil can be reused if the excavated-soil concentrations are below the threshold values established for the use of concern.

**Case 2.** The substances that characterize the pollution don't have threshold values: a specific study of human health risk assessment should be performed for these substances. This study can be conducted using the model developed by INERIS (Report DRC-11-115732-09274C) or using an equivalent model. For each case, input parameter values and "levels of risk limits" are defined in methodological guide reuse Appendix.

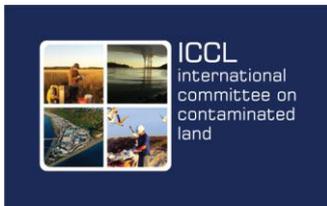
It should be emphasized that these threshold values **are not management values neither according to the national methodologies for contaminated land management** (ministry note of February 8th, 2007 and X31-620 standard), **nor according to "universal" goals of remediation.**

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

This has been implemented (2011). The national system which covers studies, engineering and remediation works, are now detailed in an accreditation procedure for the service providers and references. National guidance and procedures are available at:

<http://www.developpement-durable.gouv.fr/La-certification-des-metiers-de-la,23901.htm>

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



26. 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, )

## **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, ...)?

Organise the legal framework

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.).

## **REFERENCES**

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

<http://www.developpement-durable.gouv.fr/-Sites-et-sols-pollues-.html>

<http://www2.ademe.fr/servlet/KBaseShow?sort=-1&cid=96&m=3&catid=12620>

<http://www.developpement-durable.gouv.fr/La-certification-des-metiers-de-la,23901.htm>

[http://www.developpement-durable.gouv.fr/spip.php?page=doc&id\\_article=27486](http://www.developpement-durable.gouv.fr/spip.php?page=doc&id_article=27486)

<http://basias.brgm.fr>

<http://basol.ecologie.gouv.fr>);