



INTERNATIONAL COMMITTEE ON CONTAMINATED LAND

QUESTIONNAIRE ABOUT LEGAL FRAMEWORK FOR SOIL/SITE CONTAMINATION MANAGEMENT

COUNTRY: [Flanders \(Belgium\)](#)

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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.

‘contaminated land’: land where the soil contamination originated and land where the contaminating substances or organisms have spread to or where the soil contamination has harmful effects;

‘soil contamination’: the presence – as a result of human activities – of substances or organisms on or in the soil or the buildings and structures erected on it, which adversely affect or may affect the quality of the soil either directly or indirectly.

There is no definition for potentially contaminated sites.

2. Is Groundwater included in this definition?

soil: solid part of the earth, including the groundwater and the other components and organisms that are present in it.

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

The Decree of 30 March 2007 concerning brownfield agreements is defining **“brownfield”**: is a whole of neglected or insufficient used land which is affected in such a manner that it can only be used or re-used by means of structural measures. The decree of 18 July 2003 on integral water policy defines **“sediment”**: soil material that is moved through the water column by water flow and that forms a sedimentary deposit on the soil” and **“deposited sediment”**: the soil of a body of surface water that during the year always or almost always stands under water”

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



The risk activities potentially causing soil contamination are listed in the Flemish Regulation concerning environmental licenses. This regulation can be found on the website: www.emis.vito.be

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.)

Flanders has a specific legislation on contaminated land management:
Decree on soil remediation and soil protection (October 27th, 2006)
Flemish Regulation on soil remediation and soil protection (December 14th, 2007)

- b. If there is no legislation, please be precise how you tackle the problem.
 - c. What are the main policy objectives?

The main objectives of the soil policy in Flanders are to prevent or immediately remedy new soil pollution and to deal with soil contamination that has taken place in the past by 2036.

For new soil contamination, the objective of remediation is to reach the target values for soil quality. If this is not possible using the best available techniques not entailing excessive costs, soil remediation is aimed at obtaining a better soil quality than specified by the soil remediation standards. If this is not possible using the best available techniques not entailing excessive costs, soil remediation is aimed at avoiding that soil quality involves effectively or potentially a risk for people or for the environment.

For historical soil contamination, soil remediation is aimed at avoiding that soil quality involves effectively or potentially a risk for people or for the environment, using the best available techniques not entailing excessive costs

- 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, ...).

The main principals are based on the 'polluter pays'-principle. For historical contamination the clean-up is risk based, according to priority; for new contamination immediate clean-up (as prevention) is obliged if standards are exceeded.

Remediation objectives are better soil quality that guarantees that soil can fulfil its functions; BATNEEC approach.

6. What is the Chain of Liability for the management of contaminated land?
 - a. Polluter? Land owner? Last operator? Occupier?



The 2006 Flemish Decree on soil remediation and soil protection, distinguishes clearly between the obligation to remediate soil pollution and the liability regarding the damage caused by the soil pollution and the remediation measures. Thus, the Decree designates clearly the person whose obligation it is to remediate the soil pollution. According to a fixed chain of designation: the duty to remediate falls upon the following persons. Firstly, on the operator of the installations present on the land where the soil contamination originated, secondly, on the user of the land where the soil contamination originated and thirdly, on the owner of the land where the soil contamination originated. The Decree also provides for a possibility to be exonerated from the obligation to remediate. According to certain conditions and with regard to the status of the person (operator, land user or land owner), a person can be exonerated from his obligation to remediate. As for the liability for soil pollution: the Decree does not explicitly deals with liability rules but refers to the general rules of civil liability (Belgian Code Civil, articles 1382-1384).

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

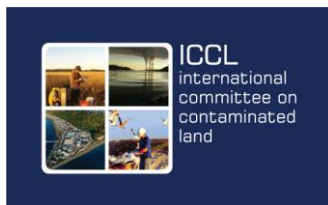
The 2006 Flemish Decree on soil pollution and soil contamination provides for a different set of rules according to the status of the contamination, i.e. whether it is new or historic soil contamination. The Decree defines new soil contamination as all soil contamination originated after 28 October 1995 and historical soil contamination as all soil contamination originated before 29 October 1995.

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

Again, distinction is being made between the duty to remediate environmental damage and the liability for environmental damage, i.e. the costs for any damage due to soil contamination itself and any damage due to remediation measures. According to Belgian Civil Law, liability cannot be passed on to another person, although it is possible of course to include indemnification and limitation of liability clauses in any given contract. As for the obligation to remediate, the 2006 Flemish Decree on soil remediation and soil protection designates the obligation to remediate to a certain person according to the chain of designation of the person obliged to remediate (cf. answer to question a). Under certain conditions, it is possible that a third party fulfils the obligations that normally fall upon the designated person. The purchaser of the land can be one of these third parties.

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?

When the remediation requirements as set up in the remediation project for any given pollution are met, the duty to remediate extinguishes. The liability (for the costs) for environmental damage however does not extinguish when



clean-up of a given soil pollution is finished. According to the general rules of civil liability, embedded in the Belgian Civil Code, liability claims can be made up until 20 or 30 years (depending on claimer's status - authority or other party), until the liable party(ies) has/have clearly been pointed out (possibly in court), until the liable party(ies) has/have met the financial requirements.

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

OVAM has programmes specifically concerning former gasworks, schools, dry-cleaning facilities, gasoline stations,...

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

In Belgium, the policy of environment is the competence of the Regions. Each region (Flanders, Wallonia and Brussels) has its own policy / legislation on contaminated land.

8. Are there specifications for site closure?

Yes, at closure from risk activities there is an obligation to conduct a soil investigation.

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

Yes, special rules for the transfer of land are:

- Soil certificate is needed
- Soil investigation obligation by risk activities
- Soil remediation requested before transfer or financial guarantee is obliged

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.

Flanders has the 'Land information Register':

- it contains every known contaminated parcel;
- this register is publicly accessible through soil certificates as information tool;
- based on preliminary soil investigation or identification (valorised information)

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

Strong points:

- transferring land is a trigger to investigate and remediate
- accreditation system for qualified experts is crucial in the overall quality control



- duty to remediate is not linked with liability
- structured and phased approach of the investigation process and remediation process.
- periodical investigation for some risk activities
- policy on excavated soils

Weak points:

- uncompleted inventory of potentially contaminated sites
- sometimes the duty to remediate can be too heavy in comparison with what we want to reach

Bottlenecks:

- uncompleted inventory of potentially contaminated sites

TECHNICAL ISSUES RELATED TO THE LEGAL FRAMEWORK

12. Are there site investigation requirements?

There are also standard procedures for site investigations and remediation.

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).

In Flanders, we have a specific approach for the protection of human health. Until now the Vlier-humaan model is used. (For a technical description of the model, see the document 'Formulary of Vlier-humaan' <http://www.ovam.be/jahia/Jahia/pid/2150> .)

Recently we have introduced a new model, S-Risk, for the assessment of human health risks of soil contamination. This model is a revised and improved version of the Vlier-humaan model. It is more flexible and transparent than the Vlier-humaan model. (See www.s-risk.be and <https://www.s-risk.be/documents> for the description of the model).

We have a specific technical approach for assessing risks for groundwater (GW). A trapped methodology is developed, going from the use of a set of criteria to the use of complex modelling. For the first and second Tier of the methodology a model, F-leach is available on the OVAM-website ([link F-leach](#)).

When relevant, specific technical approaches are followed for the protection of Ecosystems.



We have no specific approach for the protection of surface waters, however 'surface water' is considered as a receptor in the approaches for groundwater.

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

In Flanders, the technical approaches for the derivation of guideline values and those for a site specific assessment have a similar base. For historical soil contamination (from before 1995) a site specific approach is followed. For new soil contamination (after 1995) soil remediation standards determine the necessity and obligation to clean-up.

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

Yes, for non-carcinogenic pollutants normal background levels (in food and in ambient air) are taken into account.

In case of soil contamination due to emissions of sources that are still active, risk assessment and decision on necessary measures (including soil remediation), take into account all pathways and sources (i.e. integrated risk assessment).

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

- a. Reasons for derivation of generic values

The use of generic guideline values is simple and clear. Regulations using generic guideline values tend to be more objective and impartial.

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

Soil remediation standards are used during investigation to decide whether further soil investigation and/or soil remediation are necessary for new contamination. Soil target values are used as a lowest level requirement for clean-up.

- c. Priority substances

For following substances legal soil guideline values are used: arsenic, cadmium, chromium, copper, mercury, lead, nickel, zinc, benzene, toluene, ethylbenzene, xylene, styrene, 19 chlorinated hydrocarbons, 16 PAH's, cyanides, trimethylbenzenes, chlorophenols, hexane, heptane, octane, mineral oil and MBTE.

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



Soil remediation standards for soil are based on the protection of human health and on the protection of the ecosystem. Soil remediation standards for groundwater represent drinking water quality.

Critical values for concentration in the soil are calculated based on human toxicology and others based on ecotoxicology. The most critical value is retained as soil remediation standard.

The methodology for deriving soil remediation standards based on human health is described in the document 'Basic information for risk assessment' (2004), and is named Vlier-humaan. (See <http://www.ovam.be/jahia/Jahia/pid/2150>) This methodology takes also, rudimentarily, the risks for leaching of contaminants to the groundwater into account.

The derivation of human health based values follows a land-use dependent approach. For 5 different land-use types, soil remediation standards are derived. The applicable fate and transfer processes and the exposure pathways per land-use are given in table 1. Parameter values depend on land-use.

Table 1: Fate, transfer and exposure pathways per land-use class.

	nature agriculture	residences	recreation	industry
Fate and transfer				
leaching to groundwater	X			
volatilization to outdoor air	X	X	X	X
volatilization to indoor air	X	X	X	X
soil resuspension	X	X	X	X
transfer of soil to indoor dust	X	X	X	X
uptake by plants	X	X		
uptake by cattle	X			
transport through drinking water pipes		X	X	X
Exposure				
ingestion of soil/dust particles	X	X	X	X
dermal absorption from soil.dust	X	X	X	X
inhalation of vapors	X	X	X	X
inhalation of particles	X	X	X	X
consumption of vegetables	X	X		
consumption of meat/dairy prod.	X			
intake of groundwater	X			
intake of drinking-water		X	X	X
dermal absorption from water	X	X	X	X

To derive soil remediation standards based on ecotoxicology, selected and relevant ecotoxdata are put into a cumulative species distribution curve. From this curve an ecotox-based standard is derived for a set protection level. So far, only for heavy metals soil remediation techniques are derived, using this



methodology. For organic contaminants, not enough reliable ecotoxdata were available at the time when soil remediation values were derived.

16. What are the drivers for remediation?

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

For new soil contamination (after 1995 – exceeding soil remediation standards), the objective of remediation is to reach the target values for soil quality. If this is not possible using the best available techniques not entailing excessive costs, soil remediation is aimed at obtaining a better soil quality than specified by the soil remediation standards. If this is not possible using the best available techniques not entailing excessive costs, soil remediation is aimed at avoiding that soil quality involves effectively or potentially a risk for people or for the environment.

For historical soil contamination (before 1995), soil remediation is aimed at avoiding that soil quality involves effectively or potentially a risk for people or for the environment, using the best available techniques not entailing excessive costs (site specific assessment)

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

Yes, in soil remediation plans different techniques for remediation are worked out. The choice of the final solution is based on the BATNEEC-principle.

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

Ex-situ remediation: dig and dump; pump and treat.

- a. Distribution of techniques?

Ex-situ: 60%
Isolation: 10%
In-situ: 30%

- b. Evolution in time?

There is a shift towards more in-situ techniques (soil vapor extraction, airsparging, bioventing, reactive walls and natural attenuation). In 2007 the distribution was ex-situ: 65%, isolation: 10% and in-situ: 25%.

- c. Acceptance of innovative treatment techniques?



The acceptance used to be very good. Until 2005 there was a lot of research in Flanders for innovative treatment techniques. For the last eight years, we noticed that less innovative techniques are proposed.

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.

For every soil remediation plan a Batneec-evaluation needs to be given. To do a Batneec-evaluation a multicriteria analysis needs to be done. From Oct 2013 a new MCA is available which includes in a improved way sustainability criteria. The three P's are implemented as follows: for Planet a group of criteria evaluating environmental impact (both local and regional/global effects; global effects includes a CO2-calculator). For People some criteria evaluating social impact are included (in the present MCA this is rather succinct, but the whole procedure normally includes stakeholder participation in a certain mode). Profit is evaluated by criteria: cost of the remediation works, and cost of the residual contamination.

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

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

a. Land planning programmes?

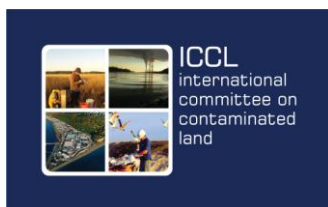
Ovam actively participates in the policy of remediation, financing and development of 'brownfields', e.g. grounds that are contaminated as a consequence of toxic industrial activities and which will be given a new destination after remediation. The brownfield decree of 2007 gives developers the opportunity to sign a contract with the Flemish government and other responsible public authorities about the realisation of a brownfield project. The aim is to enter in an agreement on mutual commitments in order to reduce uncertainties in the development process. Approved projects may also enjoy some financial benefits: exemption of registration fees for property transfers and exemption of the obligation of posting financial securities for soil remediation in case of transfer of contaminated land.

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

In Flanders there is an extensive human biomonitoring programme. OVAM participates in the steering committee. In this way there is an exchange on information on results and actions between authorities responsible for human health and authorities responsible for soil management and remediation.

FINANCIAL ISSUES

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



If parties charged with a remediation obligation are unwilling or unable to clean-up contamination that presents significant human or environmental risks, the Public Waste Agency of Flanders (OVAM) will take up responsibility and add the polluted site to its remediation program. OVAM will execute and finance the full clean-up in a first stage. Afterwards the liable party will be prosecuted and forced to pay back all remediation expenses.

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

We always give an estimate of 100.000.000 euro / year

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

We estimate that 1/3 is public money, 2/3 is from the private sector. When we look specifically to the OVAM; the money that is being used for ex-officio remediation lies between 20.000.000 to 30.000.000 euro a year.

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, ...).

Alternatives financing solutions (i.e. grants, subsidies ...) for non-orphan sites are:

1. Since 2004 gas stations can rely on the BOFAS-fund for the execution and support of their soil remediation. BOFAS is financed on a 50/50 basis by producers and consumers (product tax). Petrol stations continuing their operations enjoy support up to 62.000 EUR while stations ending their activities receive full compensation for the clean-up of historical soil pollution.

2. Vlabotex is a fund supporting the remediation of pollution caused by dry cleaning activities. Dry cleaning SME's joining the fund, are able to transfer the remediation obligation and execution to Vlabotex. By means of compensation the applicant is obliged to pay a fixed annual contribution spread over maximum 30 years. The Vlabotex-fund is partly (50%) financed by a Flemish government grant.

3. Bankruptcy trustees charged with the liquidation of unsellable polluted sites, can request support to the Public Waste Agency of Flanders (OVAM). The OVAM can take over the ownership and remediation obligation for one euro. OVAM will finance and organize the soil remediation, and afterwards resell the site.

4. From September 2013 on, OVAM will provide subsidies to present and former owners of contaminated sites for the remediation of historical contamination. OVAM co-finances 35% or 50% of the remediation costs up



to a maximum of 200.000 euro. The subsidy system is in compliance with the European legislation on state aid.

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

We estimate that 1/10 of the budget goes to investigation. Looking at ex-officio investigation and remediation, approximately 20.000.000 euro goes to remediation and 1.500.000 euro goes to investigation.

ORGANISATIONAL ISSUES

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

Stakeholders (union of notaries, union of recognized soil experts, local governments,...) are consulted in the process of developing new legislation and the strategical planning of the OVAM.

OVAM keeps a minute registry of all information related to soil quality in the 'land information register' (GIR). The soil certificate provides the buyer with information about one parcel of land. By digitising this information OVAM promotes a rapid and correct information exchange with notaries, real estate agents, soil remediation experts, municipalities and private individuals. Since January 2012 certificates are available electronically as a pdf file. Using the geoloket, the buyers and other private individuals can find out online what is the state of the land in their neighbourhood by only typing in the address. Also in January 2012 the online counter for soil remediation experts opened online. Experts can now review soil surveys online and send their reports electronically to OVAM. Recently a dedicated online counter was opened for the municipalities. In the new online counter, municipalities manage parcels with a higher risk of soil contamination. Mapping these parcels is crucial for monitoring soil quality in Flanders. The municipalities are closest to the source because they issue environmental permits.

Before and during remediation works, the neighbourhood has the possibility to look into all the documents concerning the remediation at the local authorities. When OVAM starts with ex-officio investigations or remediation works, information meetings for the neighbourhood are organised.

OVAM has a close cooperation with the Flemish cities, municipalities and intermunicipal groupings. Since 2011, OVAM provides a new form of support, tailored to a city or municipality by signing a partnership between OVAM and the municipality with common goals to reach.

23. Is there a specific approach for:



a. Brownfields?

Yes, The development of abandoned, contaminated sites or sites with suspected contamination, also called brownfields, seems necessary, especially in densely populated regions such as Flanders where the demand for building ground is bigger than the supply. An encouragement of a productive reuse of such sites results of course in the protection of the scarce green and open spaces.

The development of brownfields requires an efficient collaboration between all parties involved: local authorities, administrations, property owners, neighbours, local action groups, project developers, remediation experts, financing agencies, investors, insurers and others. The key question hereby is: can the site be remediated sufficiently and cost-efficiently to guarantee a safe and economic reuse, with clear definition of all responsibilities and liable parties?

The inertness of the complete development trajectory and process on one hand and the lack of knowledge and information regarding brownfield development on the other hand are actually responsible for the difficulties with and/or lack of start-ups and realisations of potential brownfield projects in Flanders.

In this perspective, the Flemish government has initiated in the last decade several initiatives to stimulate brownfield development.

One of these initiatives resulted in a new legislative framework for brownfield development. The brownfield decree of 2007 gives developers the opportunity to sign a contract with the Flemish government and other competent public authorities regarding the realisation of a brownfield project. The aim is to enter into an agreement on mutual commitments in order to reduce uncertainties in the development process. Approved projects may also enjoy some financial benefits: exemption of registration fees for property transfers, exemption of the obligation of posting financial securities for soil remediation in case of transfer of contaminated land and exemption of taxes on unoccupied buildings.

Since 2008, the Flemish government has approved 44 projects. Recently, a 4th call for new projects has been launched with a deadline in September 2013.

An important financial contribution of OVAM in the soil remediation on brownfields is possible when the current owner has obtained the so-called status of "innocent owner". In this case, OVAM may finance and carry out the remediation works. Up to now, OVAM has realised several remediation works on brownfield sites in cooperation with the developer of the site.

b. Megasites?

Yes but approach of megasites is handled case by case in close co-operation with the problem owner and the qualified experts.

c. Widespread pollutions?



Due to activities in the past, there is diffuse soil contamination in Flanders which can cause risk for human health. In the context that for example an informed gardener grows healthier vegetables, all stakeholders were consulted to make up a well supported action plan. A Code of Good practice for cultivating home-grown food gives advices on how to deal with soil contamination.

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

During construction projects, road works, installation of utility cables and similar operations, volumes of soil are excavated or stripped from the surface. Sometimes this excavated soil is re-used as filling material on the excavation site. In most cases, however, the excavated soil will be carried off for re-use on other locations. Soil can be re-used for instance for raising the profile of a terrain or filling of pits. Soil can be incorporated in the body of a dyke or in the sub-foundation of roadways.

If ground works are carried out on a contaminated site, chances are very real that existing soil contamination will be spread in this way. In order to prevent this dispersion of soil contamination and to offer sufficient legal security to the different actors involved in the use of excavated soil, the Flemish government drew up directives related to the use of excavated soil. This regulation is established as part of the VLAREBO (Flemish regulations on soil remediation) and came into force on April 1st 2004.

In order to meet the predefined targets, the regulations on the use of excavated soil first impose a soil quality survey. The nature of the excavation works and the volume of soil that is released by them will determine the type of exploratory strategy that has to be followed. Secondly, the regulations fix the conditions for the use of the excavated soil. Depending on the soil quality, the site for re-use and the anticipated application, the excavated soil can under certain conditions be re-used in-situ or elsewhere. The basic principle here is the stand-still principle, which means that no deterioration of the current environmental condition is allowed. Finally, a tracking procedure guarantees the administrative follow-up of the active soil flows.

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

Yes. Execution and supervision is done by qualified experts, accredited by the OVAM. To get the accreditation, the experts have to comply with various conditions. The accreditation is for an indefinite period but with the possibility for the OVAM to suspend the accreditation. There are two types of qualified experts: type 1 can execute and supervise investigation activities; type 2 can execute and supervise investigation, risk evaluation and remediation activities.



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

OVAM organises regularly training programmes for the recognized soil experts. Before recognition the soil expert must full fill different educational, and training requirements.

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,)

Environment and health are very broad concepts which touch and are an integral part of the activities and structures of our society. The link between both is of a very complex nature so that a multidisciplinary approach is necessary and evident. Therefore the Centre of Expertise on Environment and Health was established. The Centre is responsible for a human biomonitoring program. OVAM was a member in this program. Results from the human biomonitoring point to problems relating to soil quality.

OVAM has regular meetings with the 'Union of recognized soil experts' , the 'Union of nories', the 'Union of contractors', intermunicipal groupings, etc...

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, ...)?

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.).

OVAM actively promotes green and sustainable remediation. We are developing decision support systems and methodologies to assess green and sustainable remediation. We also co-finance pilot and demonstration projects. In this way we aim at a better integration of soil remediation in other social and economic processes. We promote the performance of soil remediation with low CO₂-footprint and sensible use of materials and energy.

OVAM is coordinator of the European project CityChlor. CityChlor stands for 'tackling urban soil and groundwater contamination caused by chlorinated solvents'. The project is drawn up with Flemish, Dutch, French and German partners and wants to elaborate an integrated approach for the remediation of contamination with chlorinated solvents in urban environments.



It is a strategic goal of the OVAM to develop instruments for a sustainable and responsible management of soil contamination. This is necessary to give more legal security to problem owners and to stimulate them to manage the contamination on their properties in a responsible way. Other parties, like construction firms, should also be stimulated to act carefully when planning activities that may cause problems to other remediation works. For example drainage on building sites can attract a groundwater contamination from a nearby site. By the end of 2010, concepts of these instruments should be ready for further investigation or implementation.

REFERENCES

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

www.ovam.be