

***Short statements about the contaminated land
part of the proposed Soil Framework Directive***

Second DRAFT



About this document

The COMMON FORUM agenda committee came up with the idea to prepare a document with short statements about the contaminated land part of the proposed Soil Framework Directive (SFD). The document is not intended to become a common position paper, but is intended to help those of us who have to prepare national positions to choose the best arguments to suit their needs and to be aware of arguments that may be used by others. The document will discuss each article of the SFD dealing with contaminated land management under four headings:

- A] The article implies.....
- B] The article does not imply.....
- C] Scientific comments
- D] Consequences for current practice in the member states

What is described under headings A and B aims at clarifying what the articles of the soil SFD are actually demanding from the Member States. Perceptions and (un)justified extrapolations have already been confusing the discussions and these parts of the document will try to set things straight. I have to mention that the statements under A and B are sometimes strict logical deductions from the text of the articles in the SFD and may not reflect the intentions of the commission. If so it may be a good idea to propose certain changes in the text of the directive.

Scientific comments (heading C) raise some issues concerning the technical feasibility of certain articles, which can not be easily labelled as "practical consequence", but may be relevant for the discussion.

Entries under heading D will identify the consequences for practical contaminated land management based on the experience of COMMON FORUM members. This part of the document really needs to be built up from input from COMMON FORUM members, by email before the next meeting in Stuttgart and during the discussion at the meeting.

The current (draft) version is only a starting point and all readers are invited to add statements under the four headings. Practical consequences of the proposed SFD will be widely different depending on the situation in the Member States (starters vs. countries with 25 year experience, centralized vs. decentralized policies, level of integration with spatial planning, urban development, water management and wider socio-economic issues like regional development). This means that certain statements will be only valid in some Member States and not in all. Nevertheless a "collective thinking" exercise may improve and focus all possible positions.

As said before the COMMON FORUM paper will only deal with the articles relevant for contaminated land management. One should also realize that for all soil threats addressed in the directive there is room for specific national implementation. The directive only provides a general framework. As stated in article 26 "This Directive is addressed to the Member States." This means that the practical consequences of the directive for contaminated land management in the various EU countries also depend on the way the directive will be implemented at the national level. To keep the distinction between SFD text and comments "times 12" is used for SFD text.

Implications, scientific comments and practical consequences for each relevant SFD article

Article 1

Subject-matter and scope

2. This Directive shall apply to soil forming the top layer of the earth's crust situated between the bedrock and the surface, excluding groundwater as defined in Article 2(2) of Directive 2000/60/EC of the European Parliament and of the Council.

A] Does imply:

- That in the inventory of contaminated sites (article 10), in the identification procedure (article 11), in the soil status report (article 12), in remediation (article 13) and in the national remediation strategy (article 14), sites where only groundwater contamination poses significant risks are not included. Contamination in soil and groundwater at the same site, are identified and addressed following different policies and based on different legal regimes

B] Does not imply:

- That adequate links with provisions for groundwater protection, monitoring and remediation established by Directive 2000/60/EC and Directive 2006/118/EC shouldn't be included in the present Directive.
- That member states may choose for a joint implementation of different EU directives in a single strategy for contaminated land (including groundwater and impacts on other water resources)

C] Scientific comment:

- As groundwater is intrinsically in the land and the land is a sink for many pollutants, contaminated land or soil is an important source of water pollution. From an environmental point of view soil and water interact too much to be managed separately (from CLARINET RBLM report).

D] Practical consequences:

- Experienced Member States have to deeply review their procedures for their inventory, characterization and management procedures of contaminated sites. Member States will have to formulate or re-formulate a contaminated land/contaminated sites policy in view of the SFD, addressing soil alone. A different policy will have to be formulated or re-formulated for addressing contaminated groundwater at contaminated sites. Linking both policies will have to be done in the Memberstates

Article 2
Definitions

For the purposes of this Directive, the following definitions shall apply:

- (3) ‘dangerous substances’ means substances or preparations within the meaning of Council Directive 67/548/EC¹ and Directive 1999/45/EC of the European Parliament and of the Council².

A] Does imply:

- That every substance and preparation which is regarded as ‘dangerous substance’ in EU can be (potentially) a soil contaminating substance if it is present in soil as result of human activities. The definition makes clear that there should not be a specific class of dangerous substances invented especially for the SFD. Whether the substance is actually contaminating depends on the level that Member States consider in view of significant risk to human health or the environment. (see article 10 -1)

B] Does not imply:

C] Scientific comment:

- From the point of view of contaminated land risk assessment and risk management it is not necessary that every substance falling under the broad EU definition should be subject of soil quality investigations and site specific risk assessment everywhere. Risk assessment can be restricted to those substances which – depending on the type of soil contaminating activity- contribute most to the risk for human health and the environment and are the key problems to be addressed in risk based solutions.
- What are the most important substances leading to soil pollution by “Annex II” and other relevant activities? The number of substances to be investigated and subject to risk assessment should remain practical. However the “number of substances” is set by the Dangerous Substances directive, and each one is potentially relevant. None can be ignored, though it may be the science is not available to make assessment. It is necessary to exchange information about practical experiences in EU. Experienced countries have good practice in what to investigate at what type of polluting activities, which they may want to share with others. If it is possible for risks to human health etc to arise from substances outside the Dangerous Substances list (eg landfill gas?), then this approach will mean some real risk cases are overlooked.

D] Practical consequences:

- Experienced Member States have to review their procedures for selecting soil contaminating substances for site specific risk assessment. Member States that have to formulate a contaminated land policy in view of the SFD have to design a policy for addressing the relevant substances in each case.

¹ OJ L 196, 16.8.1967, p. 1.
² OJ L 200, 30.7.1999, p. 1.

Article 9

Prevention of soil contamination

For the purposes of preserving the soil functions referred to in Article 1(1), Member States shall take appropriate and proportionate measures to limit the intentional or unintentional introduction of dangerous substances on or in the soil, excluding those due to air deposition and those due to a natural phenomenon of exceptional, inevitable and irresistible character, in order to avoid accumulation that would hamper soil functions or give rise to significant risks to human health or the environment.

A] Does imply:

- The article implies that for the purpose of preventing soil contamination, the measures to contain the introduction of dangerous substances in the soil due to air deposition are not included in the Directive.

B] Does not imply:

- A clear and explicit link with existing EU policies for environmental pollution prevention in the fields of waste management, emissions from industrial plants and agricultural practices.
- That the monitoring of “Annex II” locations where potential polluting activities are taking place is to be considered as a prevention measure.

C] Scientific comment:

D] Practical consequences:

- Lack of integration of pollution prevention principles and provisions in this Directive with principles and provisions established in existing Directives may generate confusion in Member States and difficulties in formulating a relevant soil protection policy.
- Prevention of soil contamination from diffuse sources (by air and water) will have to be based on other directives and national policies. This calls for integration in the implementation of those directives and policies by the member states

Article 10
Inventory of contaminated sites

1. Member States shall, in accordance with the procedure laid down in Article 11, identify the sites in their national territory where there is a confirmed presence, caused by man, of dangerous substances of such a level that Member States consider they pose a significant risk to human health or the environment, hereinafter “contaminated sites”.

That risk shall be evaluated taking into account current and approved future use of the land.

2. Member States shall establish a national inventory of contaminated sites, hereinafter “the inventory”. The inventory shall be made public and reviewed at least every five years.

A] Does imply:

- Each memberstate should start an inventory or complete their existing inventory or aggregate regional and local inventories to obtain a national inventory of contaminated sites.
- Contaminated sites are sites that pose a significant risk to human health or the environment, as related to their current and approved future use. If current use is safe but approved future use would give rise to significant risk the site is to be considered contaminated. If the site is posing risk taking into account current use but will no longer pose significant risk with approved future use the site is also to be considered as contaminated.
- Member States are responsible for the development of decision making criteria for the assessment of soil contamination leading to significant risk in relation to current or approved future use.

B] Does not imply:

- “Confirmed presence, caused by man, of dangerous substances” does not by itself imply actual soil sampling and analysis of contaminant levels, although article 11 does restrict confirmation to “measurement”. Article 12 mentions “determination by chemical analyses”.
- The article does not imply EU wide soil trigger values or acceptable risk levels for human health and the environment.
- A national inventory does not imply that such an inventory may not consist of individual regional or local inventories.
- A national inventory of contaminated sites does not imply that an inventory of “potentially contaminated sites” should also be established.
- Inventories are public but the decision to consider a site as contaminated need not to be subject to public debate.
- The review of the inventory in 5 years does not imply that the inventory is to be completed within 5 years. “Review” may not imply a “revision” of the process leading to the inventory (some translations of the SFD do imply a revision instead of a review). However some COMMON FORUM members find it unclear what the “review” is about. It could imply anything the Commission or European Court of Justice decide later on.
- The inventory of contaminated sites does not imply that a record of remediated sites is also to be established. However it should be clarified if a remediated site should be dropped or not from the inventory.

- The article does not imply a definition of the term “site” in spatial terms such as e.g. property boundary, extension of soil and groundwater contamination.

C] Scientific comment:

- If the borders of a contaminated site is defined by the presence/ absence of contamination with significant risks chemical analyses are essential.
- The definition of contaminated site doesn't contain the word soil. So if the definition would concentrate on polluted soils the stakeholders/citizens could easily distinguish the requirements of the Soil Directive from those of the Groundwater directive.
- “Significant” does not mean “high” or “serious” or “unacceptable”. Without further elaboration, the term has no clear meaning and is open to very wide interpretation.
- Risk does not always correspond to “concentration levels in soil”. For example landfill gas, or buried waste, may pose threats that do not show in soil concentrations.
- The presence of pathways and receptors is also part of risk assessment.
- Impacts of substances on groundwater may not be related to the use of the land in which the substances are contained. If groundwater is regard as the receptor, then it remains the receptor regardless of the human use made of the land. “Use of the land” needs to also include the environmental setting.
- The article assumes that “concentration levels “ can be established for risks to environmental receptors, to provide thresholds for further risk assessment or remedial action, in the same way as for the human receptor. However, do any countries have such a system? There are thousands of receptor types, each of which will be affected differently by a single substance (of which there are also thousands!)
- The inventory of contaminated sites is very a dynamic record. Time series available at the EU level (EEA) show that numbers from Member States may grow and drop in the years for different reasons. In order to keep track of the progress in the management of contaminated sites, number (or estimates) of potentially contaminated sites and number of remediated sites are at least needed.

D] Practical consequences:

- The delineation of the soil contamination is less difficult than the delineation of the contaminated groundwater. So the directive should emphasize, that it refers on only contaminated soil
- Linking the definition of contaminated sites to risk for current and approved future use does require Member States to have a land use register and a land use planning system. And also to ensure/ define a mechanism to take into account land use planning in soil contamination management.
- Many existing inventories are considering “potentially” contaminated sites and will need further assessments to yield an inventory of contaminated sites
- Public inventories listing sites that are contaminated but not immediately remediated may have economic and social side effects (land value, health fears).
- Focussing competent authorities on drawing up a complete inventory, instead of identifying and dealing with the worst risks first (plus firm action whenever development provides an opportunity and resources for remediation), detracts from the risk-based approach. It will focus attention and action on a bureaucratic procedure, in which completing the list is more important than acting on risks.
- Progress in site identification and remediation cannot be followed by the inventory of contaminated sites alone

Article 11
Identification procedure

1. Each Member State shall designate a competent authority to be responsible for the identification of contaminated sites.
2. Within five years from [transposition date], the competent authorities shall have identified the location of at least the sites where the potentially soil-polluting activities referred to in Annex II are taking place or have taken place in the past.

For those purposes, the activities referred to in point 2 of Annex II shall be considered independently of the thresholds specified in Annex I to Council Directive 96/61/EC³, except for the activities carried out by micro-enterprises, as defined in point 3 of Article 2 in the Annex to Commission Recommendation 2003/361/EC⁴, and those relative to the rearing of livestock.

The identification shall be reviewed at regular intervals.

3. In accordance with the following time-table, the competent authorities shall measure the concentration levels of dangerous substances in the sites identified in accordance with paragraph 2, and where the levels are such that there may be sufficient reasons to believe that they pose a significant risk to human health or the environment, an on-site risk assessment shall be carried out in relation to those sites:
 - (a) within five years from [transposition date], for at least 10% of the sites;
 - (b) within 15 years from [transposition date], for at least 60% of the sites;
 - (c) within 25 years from [transposition date], for the remaining sites.

A] Does imply:

- Member States (or the competent authorities they have appointed) should have completed their inventory within 25 years, by using a stepwise systematic approach. First step is locating the sites where activities listed in Annex II have taken place. The second step is “measuring” the concentration levels and the third step (which may follow step 2 immediately) is a site specific risk assessment if the degree of contamination gives sufficient reasons to believe that there is a significant risk for human health and the environment.
- The competent authorities seem to be responsible for all soil investigation. There has been discussion whether this also implies that all investigations should be paid by the authorities. (Representatives from the commission already pointed out that this was not their intention)
- Measuring the concentrations of (all, not just the ones associated with past/current uses like in article 12) dangerous substances at every Annex II location is required even if there is no evidence of the presence of the substances in question, or of a pathway, or a vulnerable receptor. It is also required where for example previously contaminated soil has been entirely removed or treated (unless relevant measurements are already available).

³ OJ L 257, 10.10.1996, p. 26.

⁴ OJ L 124, 20.5.2003, p. 36.

B] Does not imply:

- The article does not imply that there is only one competent authority per Member State.
- Because inventories have to be reviewed every 5 year the inventory described do not need to be complete in the strict sense of this word. One should probably read “ as complete as feasible”. However, we can only be guided by the words in the Directive. Its true that inventories may never be “completed”, because for example risks on any land could change as site circumstances change so new cases will always emerge. Its just not clear what “review” is meant to achieve
- The Article does not imply that the identified “Annex II locations” have to be recorded as “potentially contaminated sites” and if distinctions between historic/future contamination and active/abandoned sites will apply at some stage of the identification procedure, as is the case in some member states.
- The article does not imply that one should first establish a complete inventory of “Annex II locations” before starting further assessments of individual sites. The requirement that at least 10% of the identified “Annex II locations” have to be further assessed within 5 years after [transposition] points in the same direction. In any case paragraph 3 a of the article cannot refer to a complete inventory of “Annex II locations” since Member States are allowed to use 25 years for making this inventory. So the percentage of sites implied under 3 a b and c must refer to the sites as far as “identified in accordance with paragraph 2”.
- The article does not imply that all dangerous substances have to be “measured”. In view of the risks as defined in the directive only those introduced by human activities, (at least) listed in Annex II, may be relevant. By stating this explicitly in article 12 about the soil status report some questions may be raised whether the “measurement of concentration levels” required in article 11 (this article) are intended to be different from or more complete than the one described in article 12. However there is a danger in this conclusion
- The article does not imply (at least this is unclear) that concentrations of contaminants giving sufficient reasons to believe that they pose a significant risk to human health or the environment are also referring the approved future use. This is only mentioned for risk evaluation in article 10 paragraph one and not for the decision to start a risk evaluation.
- The article does not clearly imply that trigger values, against which measured concentrations at the site have to be compared, must be established by Member States.
- The article does not imply that concentration levels have to be measured only in the soil (groundwater could be included), while article 12 mentions only soil concentrations.
- The article does not imply that sites, non hosting or which never hosted Annex II activities, but affected by soil contamination originated by a nearby or distant polluting activity, are ever considered in the identification procedure.

C] Scientific comment:

- Concentration levels mentioned in 11(3) should refer to soil. A site may also involve groundwater and surface water contamination which are outside the scope of the directive, but need to be addressed anyway.
- It is not possible to measure the concentration levels of dangerous substances in the sites. One can measure concentrations of substances in small volumes of extracts of soil from soil samples with reasonable precision and accuracy (low measurement errors) but the variability of the results from different soil samples will be substantial, as soil is generally quite heterogeneous. This heterogeneity cannot be reduced by taking more samples. More samples only improve the reliability of estimates of the average concentration in a given volume of soil, which often need to be extrapolated to the larger spatial scales relevant for exposure. In short we will never have “measurements” only “estimates”. These estimates may be used to “confirm the presence” (see article 10) but in general other evidence like the history of the site and experience with similar sites should be used as well. Sometimes the other lines of evidence are even better “predictors” of contamination than chemical analyses of a few soil samples.

- The assessment of soil contamination in the directive is risk based but does not really exploit the flexibility of risk assessment. If risk assessment is used in decision-making there would be no further assessment if a competent authority has sufficient reasons to believe that the level of contamination poses a significant risk to human health or the environment. A real risk assessor would only go for an in depth on-site risk assessment if he has some concerns but NOT sufficient reasons to believe that the level of contamination poses a significant risk to human health or the environment.
- A suggestion to adapt the first part of the text of Article 11-3: the competent authorities shall determine the presence of dangerous substances in the sites identified in accordance with paragraph 2, and where the amount of dangerous substances is such that there may be reasons to believe that the contamination may pose a significant risk to human health or the environment, an on-site risk assessment shall be carried out in relation to those sites.
- Contaminant levels or concentrations of contaminants in soil (and groundwater) play an important role in this article since they are used to trigger a site specific risk assessment. However there may be other steps to take first before starting a full site specific risk assessment. In some countries one would look for evidence of a potential source pathway and receptor and create a conceptual model, before doing anything else. Detailed inspection involves a desk study, then limited sampling and site visit. then full RA. Each step is only taken if the results suggest a need to take the next step! A tiered approach is what the directive lacks. Moreover concentrations alone may not be sufficient reasons to believe that they pose a significant risk to human health or the environment. Many other factors (soil type, geohydrology, landuse, vegetation and so on) have to be taken into account. If one chooses to ignore those other factors and only want to address them in site specific risk assessment, the trigger will become quite conservative which means many on site risk assessments with many “no risk” conclusions. If one chooses to use a more complex but still simplified risk assessment than there will be less elaborate on site risk assessments and one may save costs for investigations, but on the other hand one cannot use the simple trigger of (estimated)“concentration level”.

D] Practical consequences:

- Member States have been using various identification procedures to draw up inventories. Although in the end the decision to remediate a site is based on risk in view of current or approved future use in most countries, the process leading to this decision can be quite different. Some reworking of existing inventories will be required. It would be a big problem of having to reconsider every site which has been already been considered and an appropriate decision made, which will now have to be reconsidered, maybe retested, and a new decision made. This will cause a great deal of alarm for owners and occupiers who thought potential problems had been resolved previously. if the directive avoided the strict “Measure concentration levels at every Annex II location regardless of the facts” approach, and was more risk based, then this “reopen all your old cases” effect would be removed.
- As Annex II is listing quite broad and not sharply defined categories of activities on soil, it need to be specified by the competent authorities which have to put this list into practice. However, the process may bring some blight effects to the broad classes of land thus specified.
- To build the suspicion of pollution simply on a certain present or past activity means:
 - o that a new installation with an activity listed in annex II is immediately potentially polluted after beginning the activity,
 - o that the suspicion of potential pollution does not make a difference between careful and careless operation,
 - o that ongoing activity leads to ongoing suspicion, relevant during the review.
- Identification of individual Annex II sites by competent authorities is likely to be known publicly, and this may bring blight effects – for example where sites are currently in residential use.
- Some trigger values (for starting an on site risk assessment) for soil (and groundwater) need to be developed (by competent authorities or Member States) to assess whether contaminant levels are such that there may be sufficient reasons to believe that they pose a significant risk to human health or the environment. As the

final decision for site remediation is dependent on the presence of “significant risks, it is even more important to have values which help to establish the level at which risk is “significant”. Further RA is then needed if these levels are being approached/exceeded.

- On site risk assessment protocols have to be developed if not yet available.

Article 12
Soil status report

1. Where a site is to be sold on which a potentially polluting activity listed in Annex II is taking place, or for which the official records, such as national registers, show that it has taken place, Member States shall ensure that the owner of that site or the prospective buyer makes a soil status report available to the competent authority referred to in Article 11 and to the other party in the transaction.
2. The soil status report shall be issued by an authorised body or person appointed by the Member State. It shall include at least the following details:
 - (a) the background history of the site, as available from official records;
 - (b) a chemical analysis determining the concentration levels of the dangerous substances in the soil, limited to those substances that are linked to the potentially polluting activity on the site;
 - (c) the concentration levels at which there are sufficient reasons to believe that the dangerous substances concerned pose a significant risk to human health or to the environment.
3. Member States shall establish the methodology necessary for determining the concentration levels referred to in paragraph 2(b).
4. The information contained in the soil status report shall be used by the competent authorities for the purposes of identifying contaminated sites in accordance with Article 10(1).

A] Does imply:

- Owners or prospective buyers of sites (“Annex II locations”) should provide a soil status report to the competent authorities.
- The soil status report is issued by an authorised body or person appointed by the Member State (not by the competent authorities created under article 10)
- Information about sites becomes available to the authorities and to the public if the soil status report leads (via on site risk assessment triggered by the report) to the identification of a contaminated site. This does not mean that all information about contaminants and their concentration levels needs to become public Member states need to decide which the aspects of the inventory have to be public.
- Because the information contained in the soil status report is to be used for purposes of identification of contaminated sites, the methodology for determining (= measuring ??) the concentration levels should be the same as for article 11. But the requirement in the Directive is different –article 12 is clearly limited to “linked” substances, and it uses the words “chemical analysis”.
- The concentration levels of contamination giving reasons to believe that they pose a significant risk to human health or the environment should be the same as in article 11 if the land status report is to be used to draw up a contaminated site inventory.
- That owners and buyers of properties such as apartments in tall buildings might have to provide reports, even though any risks are unlikely to affect them
- A capacity to provide reports of the necessary quality and in potentially very large numbers (depending on how far MS have re-used Annex II sites for eg residential development)

B] Does not imply:

- The article does not imply that information for the soil status report should always originate from soil investigations paid by owners or buyers. The information necessary for the status report may already be in possession of the competent authorities.
- It also does not imply that identification of a contaminated site by the authorities should be based on a single land status report.
- The article does not imply that the authorised body or person cannot be the same as the competent authority, or that there should be a single body or person per Member State.
- The article does not imply (at least this is unclear) that concentration levels at which there are sufficient reasons to believe that the dangerous substances concerned pose a significant risk to human health or to the environment are also referring to an approved future use.

C] Scientific comment:

- See earlier discussion about “measurement”. In this regard the design of a good sampling is essential for a correct extrapolation of the results from soil samples to the larger spatial scales. Maybe article 12(3) should also mention the need of establishing a methodology for soil sampling by the member states.
- it is not clear what significance attaches to the words “chemical analysis” in this article
- it assumes that a concentration level can be specified for every receptor and every dangerous substance within a few years from now. This seems impossible.

D] Practical consequences:

- For many countries the soil status report is a new legal instrument, which may lead to adjustment of several laws. Some countries do have mechanisms in place that may in the end lead to the same results. The need to consider the possibility of soil contamination is property transfer is often based in private law, and buyers or sellers may already be legally obliged to inform the competent authorities if the contamination is severe enough to cause risks for human health and the environment.
- Memberstates will need to ensure there is capacity for the necessary reports to be prepared, in the necessary numbers,
- Memberstates will need to create a system of authorising and appointing suitable bodies or persons.
- In the absence of a “concentration level” for any substance or receptor type found on a site, this system will not work in a number of cases.
- Properties subject to the status report requirements may be stigmatised as a result, even in the absence of any risk. This may be true particularly of residential properties built on previously industrial sites, which have been fully investigated and remediated (if needed) to ensure they are suitable for the use.
- Could deter reuse of industrial land (due to blight and additional costs of transactions), thus undermining one key aim of the directive (sustainable use and re-use of land and reduction of risks/threats)

Article 13
Remediation

1. Member States shall ensure that the contaminated sites listed in their inventories are remediated.
2. Remediation shall consist of actions on the soil aimed at the removal, control, containment or reduction of contaminants so that the contaminated site, taking account of its current use and approved future use, no longer poses any significant risk to human health or the environment.
3. Member States shall set up appropriate mechanisms to fund the remediation of the contaminated sites for which, subject to the polluter pays principle, the person responsible for the pollution cannot be identified or cannot be held liable under Community or national legislation or may not be made to bear the costs of remediation.

A] Does imply:

- All contaminated sites need to be remediated as far as they are listed in the inventory.
- That failure to remediate might lead to a breach of the obligation in a short space of time (since the obligation is not qualified by eg reference to article 14 strategies)
- If Member States cannot find someone to pay for remediation, they will have to pay.
- Remediation only refers to actions on the soil involving contaminants. Changing the (approved) landuse can result in a situation no longer posing significant risks but this does not seem to qualify as remediation.
- Treatment of the contaminants in situ, long term monitoring and monitored natural attenuation do qualify as remediation.
- That remediation must take place in all cases without exception.
- A funding mechanism for remediation of sites for which the polluters cannot bear the costs (because the cannot be held responsible or cannot pay)

B] Does not imply:

- The article does not imply that sites still need to be remediated if they are removed from the inventory of contaminated sites because current or approved future use changed the situation in one no longer posing significant risks, However there is no obvious mechanism for this “de-listing”. Perhaps the “review” of the inventory is a device to allow this to happen, but this is not clear.
- The article does not imply that temporary safety actions can not be a part of the remediation approach for the site.
- A funding mechanism does not imply that such a fund only consists of public money. Some countries have a ranking system to answer the question “who pays” for the remediation (and the necessary soil investigations and risk assessments): First: the polluter, second: the owner, third: the one who makes a profit by developing the site and last: the public authorities (state). The big question is of course who will decide what will count as an “appropriate mechanism”?

C] Scientific comment:

D] Practical consequences:

- Changing use of the land – hence removing the receptor or pathway – would not appear to be allowed as remedial options, though they may sometimes be more cost-effective at reducing risk.

- If remediation costs a million euros for one site (for example), and if there are hundreds or perhaps thousands of sites presenting significant risk, total cost will be very large whoever finally pays for the work. But the costs are not easily predicted before identification has been completed.
- Remediation is not subject to considerations such as the balance of costs and benefits, practicability, or impacts on the environment of the works involved. This seems impractical and wasteful, and could for example mean that protected EC habitats have to be damaged.
- It will take some efforts to avoid that “funding mechanism” is explained as “public funding”.
- It’s not clear whether the unexcavated soil at a contaminated site will be subject to the requirements of the various Waste Directives, either before or after remediation (it may be subject *during* certain types of remedial work)
- It is not clear how the remediation obligation will interface with obligations in other Directives that might also apply to the same land, which may be different.

Article 14
National Remediation Strategy

1. Member States shall, on the basis of the inventory and within seven years from [transposition date], draw up a National Remediation Strategy, including at least remediation targets, a prioritisation, starting with those sites which pose a significant risk to human health, a timetable for implementation, and the funds allocated by the authorities responsible for budgetary decisions in the Member States in accordance with their national procedures.

Where containment or natural recovery are applied, the evolution of the risk to human health or the environment shall be monitored.

2. The National Remediation Strategy shall be in application and be made public no later than eight years after [transposition date]. It shall be reviewed at least every five years.

A] Does imply:

- The drawing up of a plan with a description of objectives and targets for remediation, a description of priorities (starting with sites that pose significant risk to human health), a timetable for implementation of the plan and public funds allocated. This document will be made public and need to be reviewed every 5 years.
- Remediation targets in terms of dates expected for objectives to be reached
- The drawing up of a national remediation plan, the establishing of remediation priorities and the timing for remedial actions implementation is under the responsibility of central/local authorities.

B] Does not imply:

- A list with generic numerical remediation targets for each contaminant and each land use. However according to some the meaning of "remediation target" remains ambiguous and could indeed imply "target values".
- A ranking of sites according to risk for human health (first) and the environment (next), dictating the timetable for remediation and ignoring other priorities.
- That the national remediation strategy can not be a compilation of local or regional remediation programs with their own priorities. To meet the obligation, a national framework and direction may be needed however to give the combined total of local ones some a "national" flavour.

C] Scientific comment:

- It seems to be unclear what kind of remediation targets – more than the general risk reduction according to art. 13-2 - can be included in a national remediation strategy. More specific remediation targets can only be found taking into account the specific circumstances of the individual cases.

D] Practical consequences:

- Sites posing significant risks to human health have a higher priority. Because the risks have definitely been evaluated in view of the current and approved future use of the land, future uses leading to health risks have a higher priority for remediation than current uses leading to environmental risks (quite often groundwater contamination).
- Member States that have been running soil remediation policies and programs for some years may already have remediated (or adapted the landuse of) those sites in which the current use led to significant risk for human health. Most remediations are

now dealing with environment (groundwater) or are initiated by land use changes. In the latter case many social and economic aspects are governing the priority for remediation. MS will need to ensure not only a good proactive approach, but also a strong “reactive” one to apply whenever and wherever development presents an opportunity for investigation and remediation (it would be wrong to let these opportunities slip by because for example groundwater was not as high priority as human health risk) Decisions what, how and when to remediate are made at the local level, based on a very general national framework for contaminated land risk management. As long as this is recognised the drawing of a national remediation strategy according to article 14 will not cause big problems.

- Some member states may expect to find an ever increasing and accelerating number of human health risks as the proactive search builds up, and also as more sites are proposed for housing use (reactive).
- Member States that are starting or started recently to address contaminated land issues have to face the debate about priorities of future use related human health risk versus current use related environmental risks. This could be avoided by adapting the text of 14-1 to “starting with those sites which pose a significant risk to human health in view of their current use”. This may create another problem however. “Approved future use”, means that (like current use) the development approval is already in place, and there is no opportunity to secure improved land condition without a heavy governmental intervention. If there is no future use approved yet, then when one is proposed, there is an opportunity to secure the improvement. Of course, if the risks are posed here and now, then intervention is needed before that proposal emerges (may take 50-200 years to emerge, in case the development cycle is slow).
- Member states have to make a distinction between old historical pollution and new pollution events where immediate action is required, for instance due to the Environmental Liability directive. In the case of a new pollution event responsible parties (polluter, site owner) must be obliged to follow a different site assessment and site remediation schedule from that established in the national remediation strategy.

Article 15
Awareness raising and public participation

1. Member States shall take appropriate measures to raise awareness about the importance of soil for human and ecosystem survival, and promote the transfer of knowledge and experience for a sustainable use of soil.
2. Article 2(1), (2), (3) and (5) of Directive 2003/35/EC shall apply to the preparation, modification and review of the programmes of measures on risk areas referred to in Article 8 and the National Remediation Strategies referred to in Article 14.

A] Does imply:

- That the member states have to make some efforts to promote awareness
- That the Member States have to ensure that public participation is taking place during the development of the National remediation strategy. [it might help to briefly outline the relevant requirements from 2003/35]

B] Does not imply:

- That public participation during the development of the National remediation strategy is confined to the national (state) level. It is hard to imagine how public participation can be implemented in this case. Although public consultation is still possible on the guidance given to local authorities about their local remediation strategies. Public participation is of utmost importance in local decisions about contaminated land restoration and brownfield redevelopment, that is at the level of individual projects. The local spatial plans, addressing the environmental social and economical needs for land use and landuse changes, and the political choices can lead to priorities for remediation. These local plans often also provide opportunities for public participation in decision-making. The National Remediation Strategy is likely to be built up from the local level knowledge strategies and plans, and in that aspect it can be the result of public participation. But for those aspects where a National Remediation strategy is more than the sum of the local plans, public participation may be more difficult and democratic control by parliament seems to be the main mechanism.

C] Scientific comment:

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D] Practical consequences:

- In memberstates where public remediation of contaminated sites has been carried out in the framework of a National remediation strategy and only specific regions have developed their own remediation strategy, the mechanism for public participation should be organised at the national level.

Article 16
Reporting

1. Member States shall make the following information available to the Commission within eight years from [transposition date], and every five years thereafter:
 - (a) a summary of the initiatives taken pursuant to Article 5;
 - (b) the risk areas established pursuant to Article 6(1);
 - (c) the methodology used for risk identification pursuant to Article 7;
 - (d) the programmes of measures adopted pursuant to Article 8 as well as an assessment of the efficiency of the measures to reduce the risk and occurrence of soil degradation processes;
 - (e) the outcome of the identification pursuant to Article 11(2) and (3) and the inventory of contaminated sites established pursuant to Article 10(2);
 - (f) the National Remediation Strategy adopted pursuant to Article 14;
 - (g) a summary of the initiatives taken pursuant to Article 15 as regards awareness raising.
2. The information referred to in paragraph 1(b) shall be accompanied by metadata and shall be made available as documented digital georeferenced data in a format that can be read by a geographic information system (GIS).

A] Does imply:

- the “outcome” of the process of identifying Annex II sites, and the national inventory, must be sent to the Commission.

B] Does not imply:

- It is noted that georeferenced information is only necessary for risk areas. Some COMMON FORUM members were afraid that this would also be the case for contaminated sites

C] Scientific comment:

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D] Practical consequences:

- It is not clear what exactly has to be reported. It could be read as meaning all or some of
 - the list of annex II locations identified
 - the numbers of the different Annex II types identified
 - the concentration levels found at each individual site
 - the concentration levels which MS may set as thresholds
 - a copy of the entire national inventory
 - unspecified information about the results obtained by years 5,15 and 25 of the identification procedure.

Depending on what is to be reported, there could be considerable work in collecting and reporting the information at a national level, and problems for the Commission in checking compliance, and in processing this volume of material from 27 member states.

Article 17
Exchange of information

Within one year from [entry into force], the Commission shall set up a platform for the exchange of information between Member States and stakeholders on the risk area identification pursuant to Article 6 and on risk assessment methodologies for contaminated sites currently in use or under development.

A] Does imply:

- A very useful initiative which may improve contaminated land management throughout EU.

B] Does not imply:

- That the platform will be structured like the traditional "Committee" described in article 19.

C] Scientific comment:

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D] Practical consequences:

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Article 18
Implementation and adaptation to technical progress

1. The Commission may, in accordance with the regulatory procedure with scrutiny referred to in Article 19(3), adapt Annex I to technical and scientific progress.
2. Where, on the basis of the exchange of information referred to in Article 17, a need to harmonise the risk assessment methodologies for soil contamination is identified, the Commission shall adopt common criteria for soil contamination risk assessment in accordance with the regulatory procedure with scrutiny referred to in Article 19(3).
3. Within four years after [date of entry into force], the Commission shall adopt, in accordance with the regulatory procedure referred to in Article 19(2), the necessary provisions on data and metadata quality, utilisation of historical data, methods, access, and data-exchange formats for the implementation of the provisions of Article 16.

A] Does imply:

- Paragraph 2 does imply that the commission will only adopt common criteria for soil contamination risk assessment if the organised exchange of information indicates a necessity for harmonization risk assessment methodologies

B] Does not imply:

- That the commission will fully harmonize contaminated land risk assessment. The wording suggest a “parsimonious” approach: only common criteria if necessary.
- That the commission (on its own) decides whether certain aspects of risk assessment need to be based on common criteria. According to the regulatory procedure with scrutiny referred to in Article 19(3) Council and EU parliament can oppose the proposals of a committee mentioned in article 19. The committee consists of representatives from the Member states

C] Scientific comment:

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D] Practical consequences:

- Assuming there is likely to be considerable variation, the most likely outcome of paragraph 2 will be a move towards harmonisation.
- It is not clear what “common criteria” would cover, and how these would relate to the procedures in articles 11 and 12 regarding measuring concentrations levels and considering what risks arise.
- Moves to introduce “common criteria” after MS have begun the process of identification, risk assessment, “inventorising”, and remediating sites could be highly disruptive for the cases and the parties involved. Continuing uncertainty as to what levels of risk will attract the Directive obligations to remediate could be a major deterrent to acquisition and voluntary remediation of Annex II locations.

Article 23

Amendment to Directive 2004/35/EC

In Article 6 of Directive 2004/35/EC, paragraph 3 is replaced by the following:

“3. The competent authority shall require the remedial measures to be taken by the operator. Subject to Article 13(1) of Directive xx/xx/xx, if the operator fails to comply with the obligations laid down in paragraph 1 or 2(b), (c) or (d) of this Article, or cannot be identified or is not required to bear the costs under this Directive, those measures may be taken by the competent authority itself.”

A] Does imply:

- A change in the liability directive to harmonize requirements concerning parties responsible for remediation of contaminated soil.

B] Does not imply:

- The article does not imply that the scope of the liability directive concerning new contamination is the same as the soil framework directive for historical contamination. The liability directive is about environmental damage defined as:
 - direct or indirect damage to the aquatic environment covered by Community water management legislation ;
 - direct or indirect damage to species and natural habitats protected at Community level by the 1979 " Birds " Directive or by the 1992 " Habitats " Directive;
 - direct or indirect contamination of the land which creates a significant risk to human health.
- The contaminated land remediation part in the SFD is about contamination IN soil that poses significant risk to human health and the environment (which is more than EU community water management and birds and habitats directives).
- The article does not imply that the different national legal regimes for old (historical) soil contamination and new contamination are no longer valid.

C] Scientific comment:

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D] Practical consequences:

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