

GENERAL INFORMATION

Country /State - Region - Province	Person(s) completing the questionnaire	Organisation	Email	Remarks
Finland	Jussi Reinikainen and Jaana Sorvari	SYKE (Finnish Environment Institute)	jussi.reinikainen@ymparisto.fi jaana.sorvari@ymparisto.fi	

Please fill in the questionnaire by giving short answers to the questions presented in the three spreadsheets (A, B and C). Please write your answers on the empty rows below the questions.

Please note that the questions are related only to EXCAVATED contaminated soil (except Question 1.), including treated contaminated soil.

We are only expecting one filled questionnaire per country or region/province, so please agree on completing the questionnaire with you colleagues, if more than one person from your country will be attending the meeting.

We have introduced some alternative answers and explanations to help you with your answers and to hopefully shorten the time of completing this questionnaire, so do not hesitate to use them, if they are appropriate.

When the questions are not relevant to your country or you don't have any answers, you can use the following abbreviations: NR - not relevant, NI - no idea.

Please feel also free to provide links to any websites or documents for further information.

A- General situation

Management of excavated contaminated soil

1. What are the approx. proportions of *in situ*, on site and off site techniques in site remediation?

Based on the administrative decisions of remediation works from 2005-2008 the proportions are about: off site > 90%, in situ < 10% And on site < 1%. Many projects also include both in situ and off site phase during remediation.

2. What is the typical amount of annually excavated contaminated soil (tons per year)?

Please indicate, if the figure is based on estimate or compilation of statistics.

Based on the administrative decisions of remediation works from 2005-2008 the typical annual amount is around 1,5 Mt.

3. What are the most common treatment methods for excavated contaminated soil?

Biological treatment (mainly composting), solidification/stabilization, isolation, soil vapor extraction, soil washing, thermal treatment.

4. How much of all the excavated contaminated soil is typically reused as such and/or as treated?

Alternative answers: < 10%, 10-30%, 30-50%, 50-70%, 70-90%, >90%, etc. Please indicate, if the figure is based on estimate or compilation of statistics.

About 90% of all the excavated soil is reused, mainly in landfills for daily covers and different constructions. Slightly contaminated soil (about 80%) is usually used without any treatment and the more contaminated soil after some treatment (usually composting or solidification/stabilization). Less than 10% of all the excavated soil is disposed to landfills as waste/hazardous waste.

5. What are the main applications for reuse of excavated contaminated/treated soil?

Alternative answers: road construction, other soil construction, noise barriers, land fill covers, etc.

Most of the excavated soil off site is reused in landfills for daily covers and different landfill constructions. The other applications include noise barriers and other soil constructions. Excavated soil on site is also used for backfilling and landscaping.

B- Policy issues

Management of excavated contaminated soil

6. List the existing policy instruments for the management of excavated contaminated soil (concerning instruments on reuse, treatment and landfilling)

Please shortly describe the instruments and/or provide links to websites or documents for further information

6a. Regulations

The classification and management of waste, including soil (contaminated and not contaminated) are mainly regulated through EU regulations. Those regulations are implemented by national regulations such as the Waste Act 1072/1993 and Waste Decree 1390/1993

(<http://www.finlex.fi/en/laki/kaannokset/1993/en19931072.pdf> and

<http://www.finlex.fi/en/laki/kaannokset/1993/en19931390.pdf>). Also other national regulations such as the Environmental Protection Act 86/2000 and Decree 169/2000

(<http://www.finlex.fi/en/laki/kaannokset/2000/en20000086.pdf>) and

<http://www.finlex.fi/en/laki/kaannokset/2000/en20000169.pdf>) include articles on waste management. The Government Decree on the Assessment of Soil Contamination and Remediation Needs 214/2007

(<http://www.finlex.fi/en/laki/kaannokset/2007/en20070214.pdf>) is not directly applied to excavated soil, but the threshold and guideline values presented in the Decree are also used for managing excavated soil (see 6b).

6b. Guidelines

Guidelines on the assessment of contamination and remediation needs given by the Ministry of the Environment (<http://www.ymparisto.fi/default.asp?contentid=302022>) include some general instructions for the classification of contaminated soil as waste and for the evaluation of the applicability of excavated soil to treatment, reuse and disposal. More detailed instructions and criteria for the evaluation of the applicability of excavated soil to utilization are being prepared and will be given as guidelines or as a regulation (decree).

There's also an existing guidance and associated criteria on using waste (contaminated soil included) in the surface structures of landfills (<http://www.vtt.fi/inf/pdf/tiedotteet/2004/T2246.pdf>).

6c. BAT/BATNEEC criteria

The general principle and requirement to use BAT/BATNEEC for the treatment of waste is presented in the Waste Act and the Environmental Protection Act but the associated, specified criteria haven't been given. More detailed BAT criteria and/or instructions for the good practice concerning the treatment of excavated contaminated soil, however, are being prepared.

6d. Registers/inventories/databases (e.g. concerning information on soil streams, locations of reuse sites and treatment technologies)

If there are any, please indicate if the information is made available to the public

Information on soil streams has been collected straight from the mainly private treatment facilities who receive contaminated soil. The summary of the information (e.g. the quantities and quality of received soil and the treatment methods used) has been published in a separate report

(<http://www.ymparisto.fi/download.asp?contentid=97280&lan=fi>) and on the website of the Environmental

Administration (www.ymparisto.fi). The same website also contains information on related issues such as the treatment technologies and treatment facilities in Finland. Locations of reuse sites are not systematically registered in databases, though the information of the current sites (including all the sites where waste is utilized) can be found on the waste management database VAHTI. The goal is, nevertheless, that in the future the sites with reuse of contaminated soil will be registered in our national database on contaminated sites. The databases can not be accessed on the internet, but the information is made available to public by addressing requests to the Regional Environment Centers or the Finnish Environment Institute.

6e. "Soil banks" or other logistic instruments for managing soil streams

No. However, there are many private treatment facilities who temporarily storage excavated soil and keep track on information of the soil streams they receive, treat and deliver for utilization (see question 6d).

6f. Economic instruments (e.g. taxation and incentives)

There are no taxes on contaminated soil that is disposed to landfills (or reused there).

6g. Other instruments

NR

7. Does the management of excavated contaminated/treated soil differ from the management of natural soil or the other waste streams?

If yes, please shortly describe how they differ (e.g. different legislation, different reuse criteria, different taxation, restrictions on the use)

By definition in the existing regulations (the national ones based on EU regulations), waste is classified as either hazardous or non-hazardous waste, the latter including both contaminated and non-contaminated soils. The management of hazardous waste differs to some extent from non-hazardous waste, but the same procedures apply to all non-hazardous waste, including soil. However, soil that is not suspected to be contaminated can be managed without testing and the need for environmental permits. This exception is given by the Environmental Protection Decree. The existing instructions and the guidelines under preparation (see 6 b), nevertheless, set/will set somewhat different requirements to contaminated soil depending on the level of contamination in soil. In addition, our national waste legislation is under revision at the moment, which may affect the management of excavated soils as well.

8. Do you foresee any changes in the practices of soil reuse due to the new Waste Directive (2008/98/EC)?

Answers expected only from the EU countries

Yes, the End of Waste criteria will probably affect at least to some extent the reuse practices of non-contaminated soils (both treated soils and soils from natural origin). A project on the EoW criteria for soil is going on at the moment and should be finished by the end of year 2010.

C- Technical issues

Management of excavated contaminated soil

9a. Are there guidelines and associated criteria to determine whether soil is suitable for reuse?

If yes, please shortly describe the contents of the guidelines (e.g. assessment tiers and the type of methods) and the type of criteria (e.g. soil remediation criteria, other risk-based soil concentration values, leaching criteria, toxicity criteria). Please feel also free to provide links to websites or documents for further information

At the moment the Guidelines on the assessment of contamination and remediation needs include some general instructions for the evaluation of the applicability of excavated soil to reuse (see 6b). The criteria used in that evaluation are the threshold and guideline values given for the assessment of soil contamination and remediation need in the Decree 214/2007 (see 6a). The derivation of those values is presented in a separate report (in Finnish with English abstract) and a summary of the derivation procedure in English can be found in the HERACLES report (http://ies.jrc.ec.europa.eu/uploads/fileadmin/Documentation/Reports/RWER/EUR_2006-2007/EUR22805-EN.pdf). The instructions consider mainly the required administrative decision (environmental permit or notification) and not the assessment process. It is stated, nevertheless, that soil with contaminant concentrations below the threshold values can be used freely without any restrictions, considering the characterization of soil has been sufficient and approved by the competent authority. It is also stated that soil with contaminant concentrations below the lower guideline value can be used for landfill structures and daily covers without further testing that are normally required (based on the Landfill Directive 1999/31/EC) for the disposal of waste to landfills. When other types of reuse is in question, an environmental permit is required, and the applicability of contaminated soil to reuse is evaluated on the basis of site-specific risk assessment. However, a specific risk assessment methodology to be used hasn't been defined. In the forthcoming guidelines or regulation on reuse (see 6b) criteria will be given for the evaluation of applicability of soil for certain types of reuse applications and sites.

9b. Are those mandatory or is it possible to deviate from them based on site-specific risk assessment?

If yes, please indicate if a risk assessment methodology to be used is defined

If the criteria under preparation will be given as guidelines, they will not be mandatory but only recommendations, but in case of a regulation, they will be mandatory.

10. Are there specific procedures for quality control related to reuse and/or treatment of excavated contaminated soil?

If yes, please list the elements they concern (e.g. sampling, methods, tests and interpretation of the results)

Specific procedures for quality control of soil are not yet existing, though some recommendations related e.g. to sampling and analysis have been given in the Guidelines on the assessment of soil contamination and remediation needs (see 6b). Those recommendations mainly deal with the aspects of landfill treatment/disposal due to the fact that associated quality procedures have been presented in the existing landfill regulations. The ongoing project on the soil reuse, nevertheless, should eventually present a quality control process regarding utilization of contaminated soil in construction.

11. Are there any requirements for structures, monitoring or site conditions related to reuse applications?

If yes, please shortly describe the requirements

When environmental permit is needed for reuse (at the moment it usually is, except for the non-contaminated soil and the reuse in landfills, see 9a) the requirements are set on a site-specific basis as part of the permitting. In general the requirements and the overall decision whether a permit will be given or not depend on the sensitivity of the site like the vicinity of groundwater areas or housing. The forthcoming guidelines/regulation will probably also define certain requirements, and it's unlikely that e.g. reuse on classified groundwater areas will be possible, at least without an environmental permit.