

GENERAL INFORMATION

| Country /State - Region - Province | Person(s) completing the questionnaire | Organisation | Email | Remarks |
|---------------------------------------|---|--------------|-------|---------|
| Austria | Harald Kasamas | | | |

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 <i>in situ</i>, on site and off site techniques in site remediation? | Reference |
| <i>Between 1989 and 2006 the proportions were 46 % for in situ treatments (incl. 23% pump&treat and 22% containment barriers), 10% for on site treatments (incl. 4% bio piling and 6%sealing), and 44% for excavation</i> | [1] |
| 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. | |
| <i>Annual amount of excavated soil is approx. 22 mio. t. From this amount, 800.000 t are considered "contaminated soil". Figures are compilation of statistics</i> | [2] Table pa |
| 3. What are the most common treatment methods for excavated contaminated soil? | |
| <i>25 treatment facilities for contaminated soil with a total capacity of 1 mio. t. (1) biotechnolgy, (2) disposal, (3) chemical/physical treatment, (4) less incineration. 350.000 t contaminated soil have been treated in 2004.</i> | [2] page 88 |
| 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. | |
| Approx. 72% is reused.28% landfilled. Figures are compilation of statistics. | [2] page 50 |
| 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. | |
| backfilling, road construction, noise barriers, landfill cover, landscape modelling, recultivation, depending on soil status after treatment | [2] page 23 |

[1] Environment Ministry (2007) Altlastensanierung in Österreich: Effekte und Ausblick / Remediation of contaminated Sites in

[2] Environment Ministry (2007): Federal Waste Management Plan 2006 (in English)

B- Policy issues

Management of excavated contaminated soil

Reference

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

AWG 2002, BGBl I Nr. 54/2008 - Waste Management Law
ALSAG 1989, BGBl Nr. 299/1989 - Contaminated Sites Remediation Act
DepVO 2008, BGBl II Nr. 39/2008 - Landfill Ordinance
§32WRG - Water Protection Act

[3]

6b. Guidelines

Environment Ministry (2006): Federal Waste Management Plan
Baustoff-Recycling-Verband (2007):: Merkblatt "Wiederverwendung/Verwertung von Bodenaushubmaterial"
Baustoff-Recycling-Verband (2004): Richtlinie für die Aufbereitung kontaminierter Böden und Bauteile

[2]

6c. BAT/BATNEEC criteria

see 6b.) guidelines

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

register on treatment facilities

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

NI

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

fee on the disposal of contaminated soil used for financing remediation projects (§6 ALSAG)

6g. Other instruments

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)

no (but contaminated soil needs more analytic effort than clean soil)

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

no

[3] Law database - <http://www.ris.bka.gv.at/defaultEn.aspx>

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

The possible reuse of excavated (and treated) contaminated soil and criteria are defined within the "Federal Waste Management Plan" [2006; see www.bundesabfallwirtschaftsplan.at]. Three classes of reuse are defined: (class A1: unrestricted reuse, in particular also for agriculture; class A2: restricted reuse; A2-G: restricted reuse close to the groundwater level). Furthermore specific considerations are given for soils with elevated background concentrations, which might be used at locations showing similar soil quality. The 4 mentioned reuse categories (see also bottom of the table, with reference to the numbers defined by the Austrian Waste Directory Ordinance) are defined by soil concentration values as well as further criteria for a set of parameters characterising general soil types and properties (e.g. TOC, particle size, nutrients) and conditions on the site of reuse.

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

The "Federal Waste Management Plan" and the given criteria are 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)

Yes, the "Federal Waste Management Plan" describes data which have to be provided by different parties (e.g. site owner of excavation, construction company, site owner for reuse), duties of documentation and refers to specific Austrian standards on sampling of soil and waste (ÖNORM S 2121 and ÖNORM S 2123-1).

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

If yes, please shortly describe the requirements

Besides the already mentioned requirements on site conditions (see answer 9a: land use and distance to groundwater table), and quality control (see answer 10; sampling, documentation) there are further detailed descriptions to characterise the structure of new soil layers regarding possible specific soil functions or constructions (e.g. agriculture, dams).

SN 31411 29 excavated soil, background concentrations elevated, reuse only at locations of similar soil quality

SN 31411 30 excavated soil ; class A1; unrestricted reuse for agricultural recultivation layers

SN 31411 31 excavated soil; class A2; general reuse as fill material and non-agricultural recultivation layers

SN 31411 32 excavated soil; Klasse A2G; reuse as fill material close to the groundwater table