SLOVAK ENVIRONMENT AGENCY

CONTAMINATED SITES IN SLOVAKIA AND SOIL MONITORING LAW

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Chapter IV Contaminated sites

Article 12 Risk-based approach

MS shall establish a risk-based approach for the following:

(a) the identification of potentially contaminated sites in accordance with Article 13;

(b) the investigation of potentially contaminated sites in accordance with Article 14;

(c) the management of contaminated sites in accordance with Article 15

Act of the MoE SR No. 596/2007 Coll., on geological works (Geological Act) and on amending and supplementing certain acts

Decree of the MoE SR No. 51/2008 Coll., implementing the Geological Act, as amended

Act of the MoE SR No. 490/2011 Coll., on certain measures in the field of contaminated sites and on amending and supplementing certain acts

Guideline of the MoE SR No. 1/2015 - 7 of 28 January 2015 of a risk analysis of the contaminated sites

State programme for the remediation of contaminated sites (3)

Chapter IV Contaminated sites

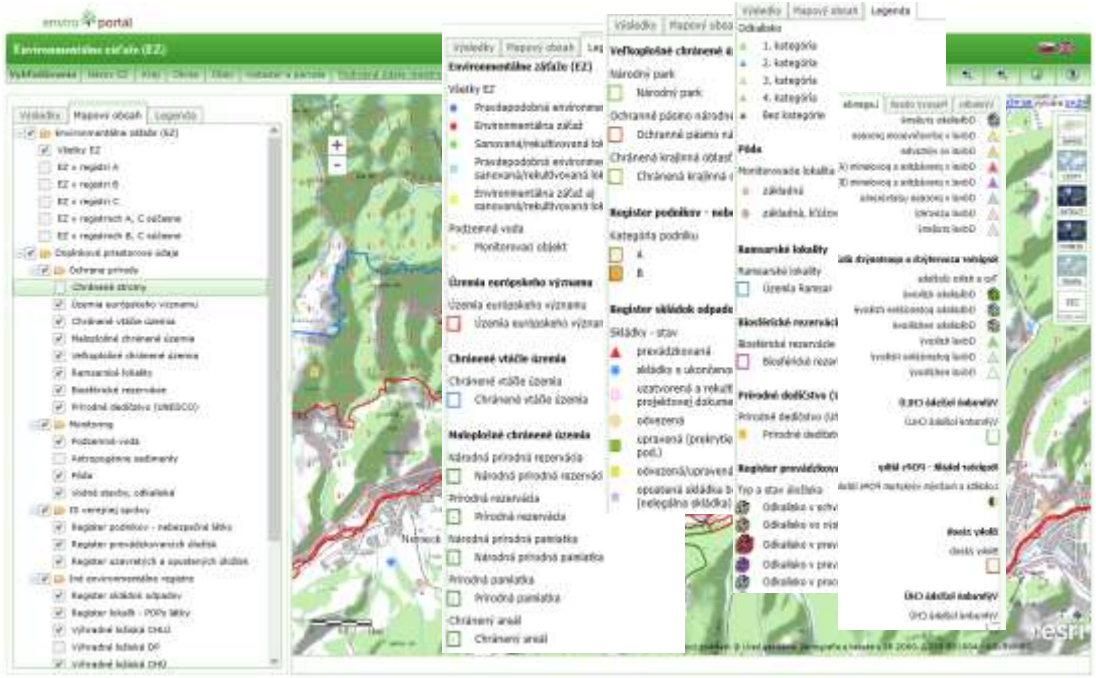
Article 13 Identification of potentially contaminated sites

1. MS shall systematically and actively identify all sites where a soil contamination is suspected based on evidence collected through all available means (‘potentially contaminated sites’).
2. When identifying the potentially contaminated sites MS shall take into account the following criteria:

(a) operation of an active or inactive potentially contaminating risk activity;(b) operation of an activity referred to in Annex I to Directive 2010/75/EU; (c) operation of an establishment referred to in Directive 2012/18/EU of the European Parliament and of the Council; (d) operation of an activity referred to in Annex III to Directive 2004/35/CE of the European Parliament and of the Council77; (e) occurrence of a potentially contaminating accident, calamity, disaster, incident or spill; (f) any other event liable to cause soil contamination;

Information system of contaminated sites (ISCS)

Register A (potentially contaminated sites)



Chapter IV Contaminated sites

Article 14 Investigation of potentially contaminated sites

1. MS shall ensure **that all potentially contaminated sites identified** in accordance with Article 13 are subject to soil investigation.

2. MS shall lay down the **rules concerning the deadline, content, form and the prioritisation of the soil investigations**. Those rules shall be established in accordance with the risk-based approach referred to in Article 12 and the list of potentially contaminating risk activities referred to in Article 13(2).....

- **Act of the MoE SR No. 490/2011 Coll., on certain measures in the field of contaminated sites and on amending and supplementing certain acts**
- **Act of the MoE SR No. 596/2007 Coll., on geological works (Geological Act) and on amending and supplementing certain acts**
- **Guideline of the MoE SR for environmental investigation in contaminated sites**
- **ISCS (prioritisation)**

Chapter IV Contaminated sites

Article 15 Risk assessment and management of contaminated sites

1.MS shall lay down the **specific methodology for determining the site specific risks of contaminated sites**. Such methodology shall be based on the phases and requirements for site-specific risk assessment listed in Annex VI.

2. MS shall define what constitutes **an unacceptable risk for human health and the environment** resulting from contaminated sites by taking into account existing scientific knowledge, the precautionary principle, local specificities, and **current and future land use**.

3. For each contaminated site identified pursuant to Article 14 or by any other means, the responsible **competent authority** shall carry out a site-specific assessment for the current and planned land uses to determine whether the contaminated site poses unacceptable risks for human health or the environment.

4. On the basis of the outcome of the assessment referred to in paragraph 3, the responsible competent authority shall take the appropriate measures to bring the risks to an acceptable level for human health and the environment ('risk reduction measures').

5. The risk reduction measures may consist of the measures referred to in Annex V. When deciding on the appropriate risk reduction measures, the **competent authority** shall take into consideration the costs, benefits, effectiveness, durability, and technical feasibility of available risk reduction measures.

Guideline of the MoE SR No. 1/2015 - 7 of 28 January 2015 for the preparation of a risk analysis of the contaminated sites

Commission of the MoE SR for assessment and approval of final reports with risk analyses of the contaminated sites

Chapter IV Contaminated sites

Article 16 Register

1.MS shall, in accordance with paragraph 2, draw up a **register of contaminated sites and potentially contaminated sites.**

2. The register shall contain the information set out in Annex VII.

3. The register shall be managed by the responsible competent authority and shall be regularly kept under review and up to date.

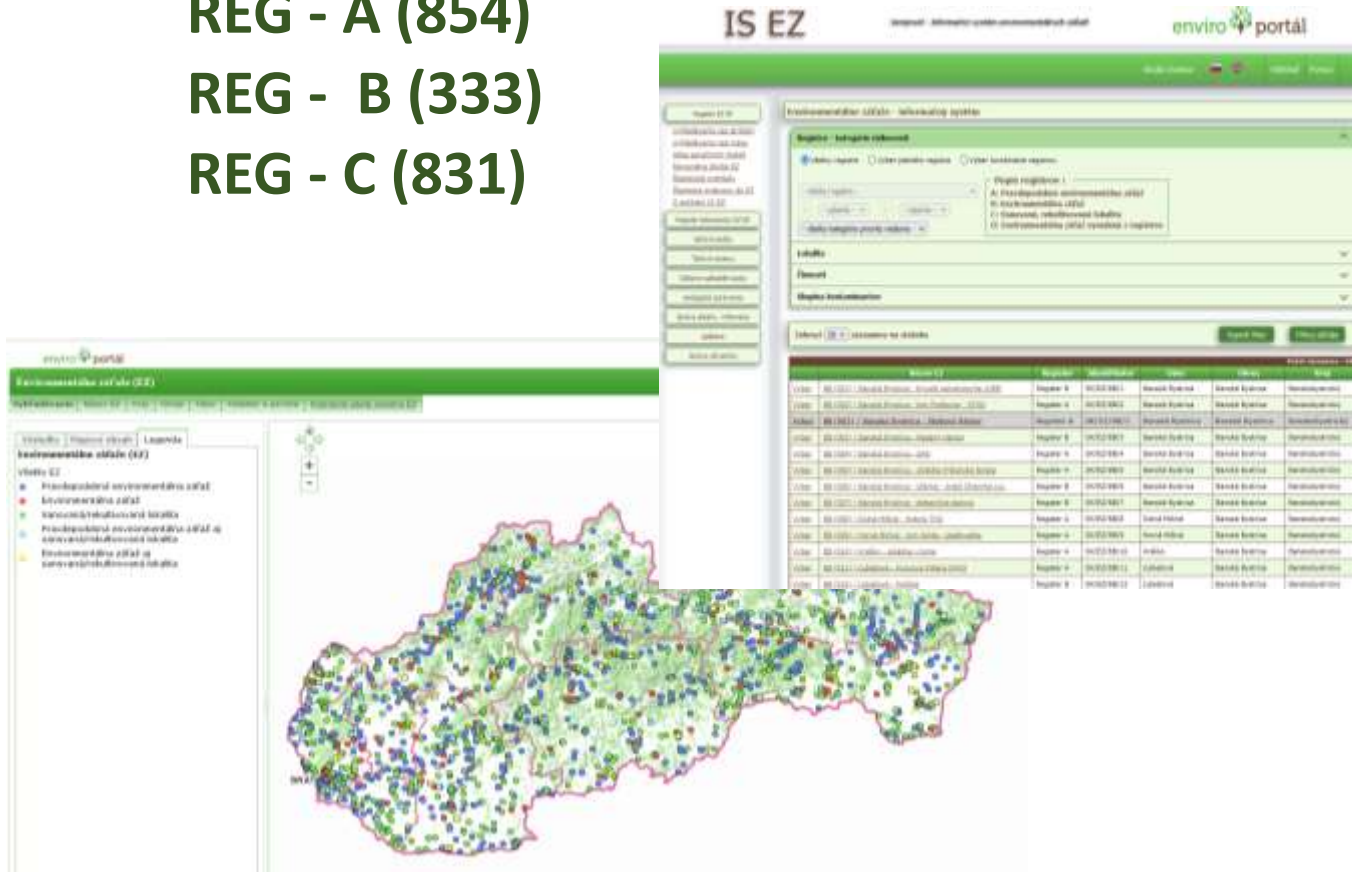
4. MS shall make public the register and information referred to in paragraphs 1 and 2.The register **shall be made available in an online georeferenced spatial database**.

Information system of contaminated sites

REG - A (854)

REG - B (333)

REG - C (831)



Chapter V Financing, information to the public and reporting by Member States

Article 17 Union financing

Given the priority inherently attached to the establishment of soil monitoring and sustainable management and regeneration of soils, the implementation of this Directive shall be supported by **existing Union financial programmes** in accordance with their applicable rules and conditions.

Operational Programme **ENVIRONMENT** (2007 – 2013): investigation - 140, remediation - 19,monitoring - 161

Operational Programme **QUALITY of ENVIRONMENT** (2014 – 2020): investigation - 94, remediation -35,monitoring - 305

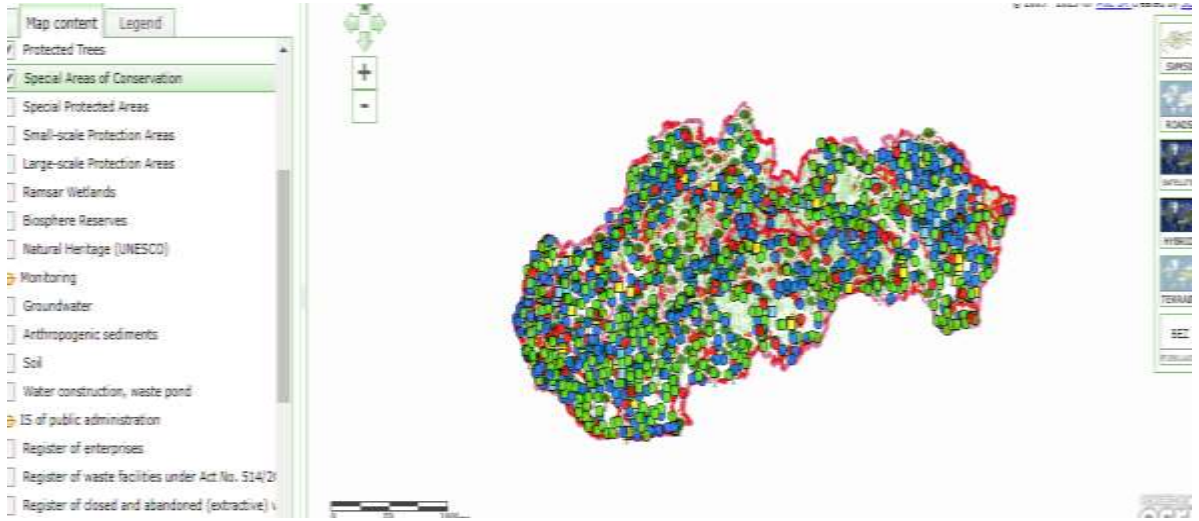
Programme **SLOVAKIA** (2021 – 2027): investigation – cca 60, remediation - 78,monitoring – cca 300 (SPRCS)

Chapter V Financing, information to the public and reporting by Member States

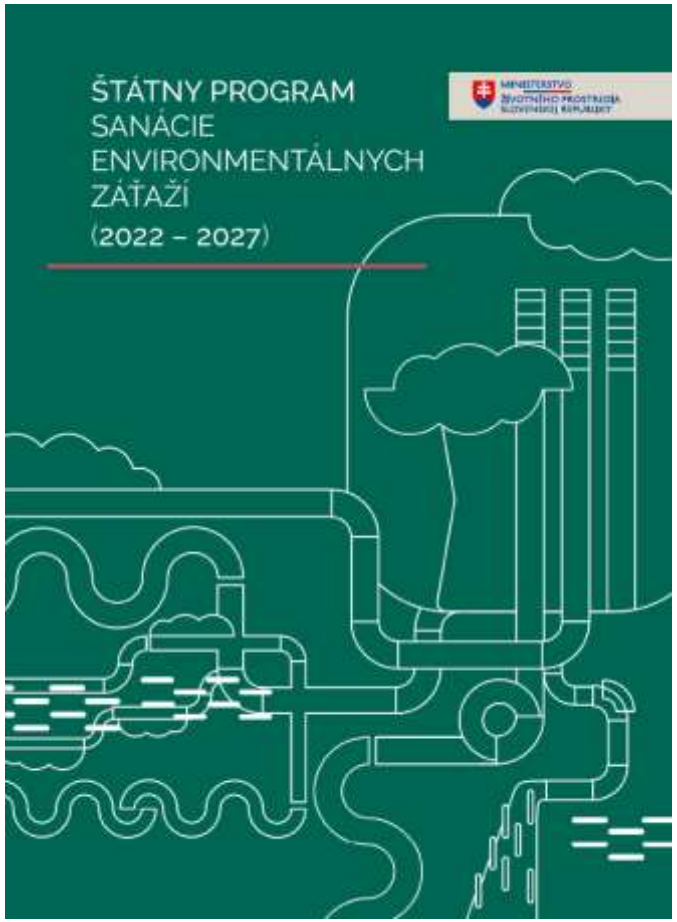
Article 19 Information to the public

MS shall ensure that the information referred to in Article 18 of this Directive is **available** and **accessible to the public** in accordance with Directive 2003/4/EC, Directive 2007/2/EC and Directive (EU) 2019/1024 EC

ISCS: available to the public, prioritisation (preliminary risk assessment), **interface** (GEOFOND - SGIDS), **decisions** of the state administration on the **determination of the responsible person (polutter pay principe) + decisions** of the Commission on the **determination of remediation limits and appropriate remediation measures** (Commission of MoE SR for assessment and approval of final reports with risk assessment of the contaminated sites)



ANNEX IV PROGRAMMES, PLANS, TARGETS AND MEASURES REFERRED TO IN ARTICLE 10



Objective 1: Improve the management of contaminated sites

Objective 2: Identification and geological investigation of potentially contaminated sites

Objective 3: Detailed geological investigation of contaminated sites

Objective 4: Remediation of contaminated sites

Objective 5: Monitoring of contaminated sites

ANNEX V INDICATIVE LIST OF RISK REDUCTION MEASURES

1. Remediation techniques for in- or ex-situ remediation:

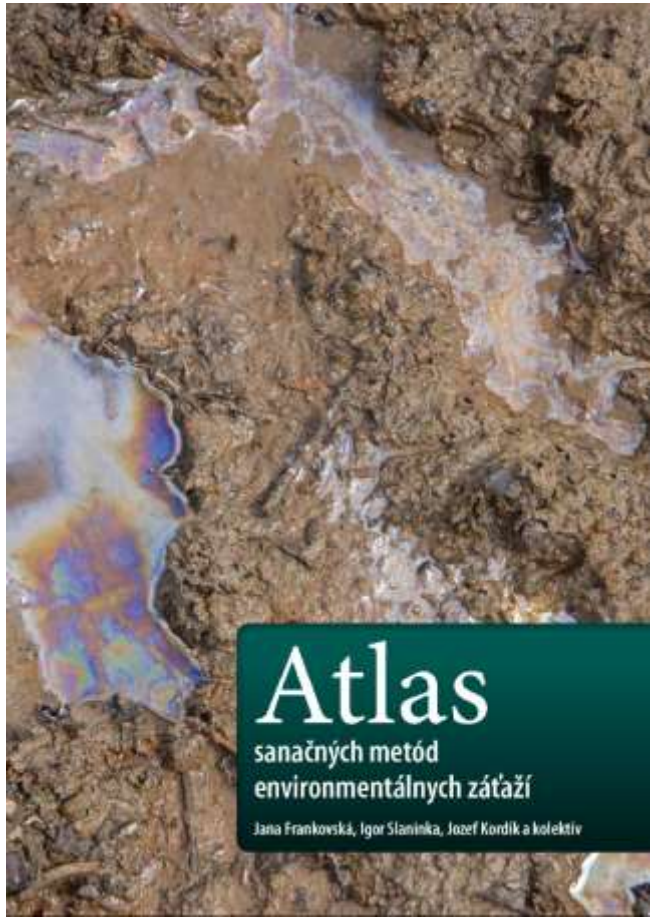
a) Physical remediation techniques

b) Biological remediation techniques

c) Chemical remediation techniques

d) Remediation techniques for isolation, containment and monitoring

2. Risk reduction measures other than remediation



ANNEX VI PHASES AND REQUIREMENTS FOR SITE-SPECIFIC RISK ASSESSMENT

- 1. Characterization of the contamination requires identifying the **contaminants present at the site and determining their source, concentration, chemical form, and distribution in the soil and groundwater. The presence and concentration of contaminants is determined through soil sampling and investigation.**
- 2. Exposure assessment identifies the path by which soil contaminants may reach receptors. Exposure **pathways** may include **inhalation, ingestion, dermal contact, plant uptake, migration to groundwater** or others. This information is combined with the frequency and duration of exposure and receptor characteristics such as age, gender, and health status to estimate the contaminant uptake. The **source-pathway-receptor** linkages are summarized in a **graphic, schematic and simplified representation: the conceptual site model**.
- 3. Toxicity or hazard assessment involves the evaluation of the potential health and environmental effects of the contaminants, based on the dose and duration of exposure. **The toxicology or hazard assessment takes into account the inherent toxicity of the contaminants and the susceptibility of different populations**, such as animals, micro-organisms, plants, children, pregnant women, elderly, etc. The toxicological information is used to estimate reference doses or concentrations, which are used for the risk characterization.
- 4. **Risk characterization** requires integrating the information from the previous steps to estimate the magnitude and probability of adverse effects of the contaminated site for human health and the environment, including from migration of the contamination to other environmental media. **The risk characterization helps to prioritize the need for risk reduction and remediation measures**. It can also help to define remediation or management objectives for a site, e.g. to achieve maximum acceptable limits or site-specific risk-based screening values

Guideline of the Ministry of the Environment of the Slovak Republic No. 1/2015 - 7 of 28 January 2015 of a risk analysis of the contaminated sites

ANNEX VII CONTENT OF REGISTER OF POTENTIALLY CONTAMINATED SITES AND CONTAMINATED SITES

The register shall contain and present the following information at site level for the known potentially contaminated sites, contaminated sites, contaminated sites requiring further action, and contaminated sites where action was taken or is being taken:

(a) **coordinates, address or cadastral parcel**(s) of the site in accordance with Directives (EU) 2019/1024 and 2007/2/EC;

(b) **year of inclusion in the register**;

(c**) contaminating or potentially contaminating risk activities** that have taken or are taking place on the site;

(d) **management status of the site**;

(e) conclusion on the **presence or absence, concentration, type and risk of the contamination** (or residual contamination after remediation) where information on those elements is already available from the soil investigations and risk assessment referred to in Articles 14 and 15;

(f) **next actions and management steps** required and referred to in Articles 14 and 15, including their timeline.

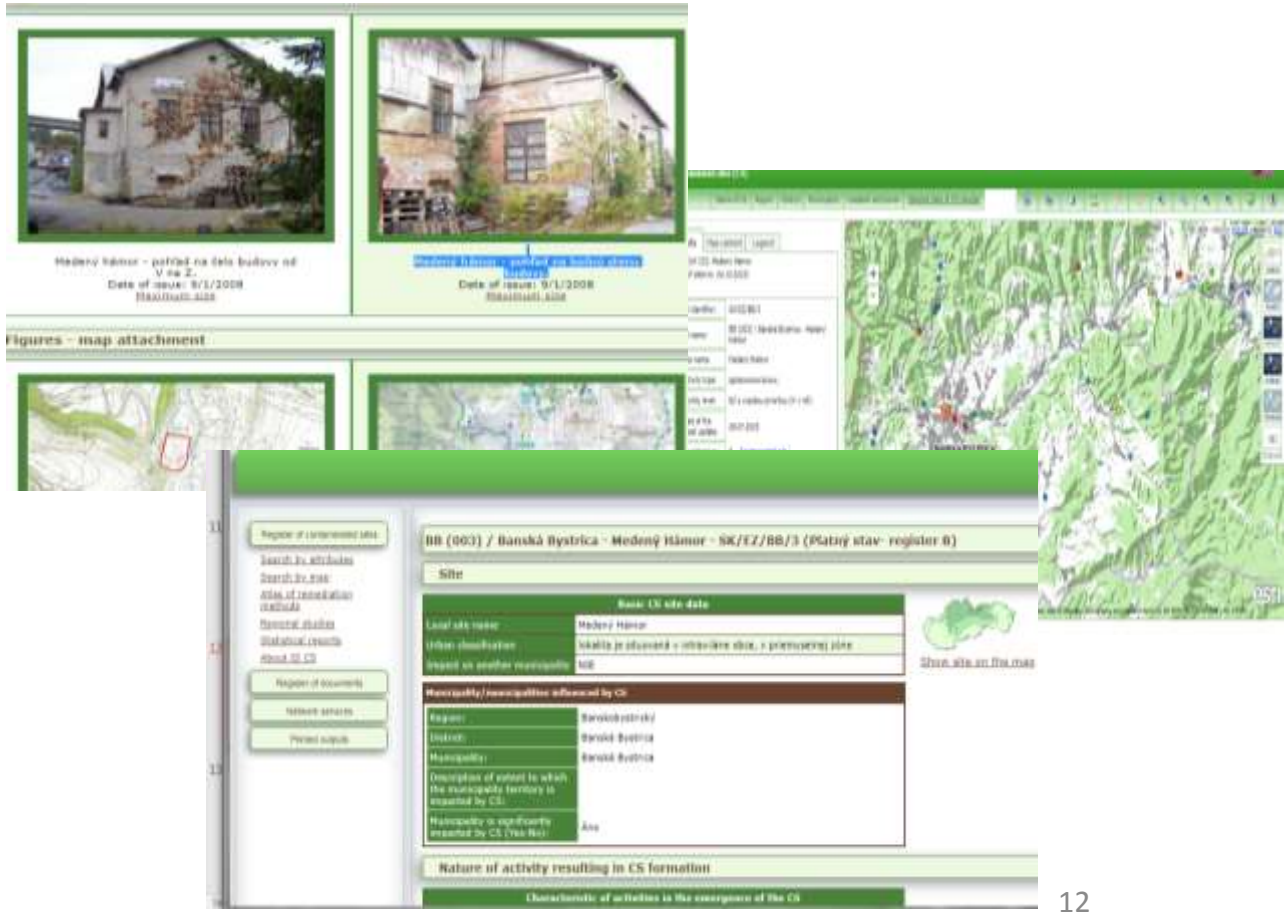
The register may also contain the following information at site level for the known potentially contaminated sites, contaminated sites, contaminated sites requiring further action, and contaminated sites where action was taken or is being taken, where available:

(a) **information on environmental permits** issued for the site, including the start and end year of the activity;

(b) **current and planned land use**;

(c) **results of soil investigation and remediation reports** such as concentrations and contours of the contamination, conceptual site model, risk assessment methodology, techniques used or planned, effectiveness and cost estimates of risk reduction measures

ISCS (search by attributes or by map)



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Thank you very much !

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