

Environmental Quality Objectives - starting point for management of contaminated sites and utilisation of waste in constructions

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The Swedish Parliament's decision - 16 Environmental Quality Objectives

»The overall aim is
to hand over to the next
generation a society
in which the major
environmental problems
have been solved.«



The Swedish Parliament
(Riksdagen) 1999



16 Environmental Quality Objectives

- 1 Reduced Climate Impact
- 2 Clean Air
- 3 Natural Acidification Only
- 4 A Non-Toxic Environment
- 5 A Protective Ozone Layer
- 6 A Safe Radiation Environment
- 7 Zero Eutrophication
- 8 Flourishing Lakes and Streams
- 9 Good-Quality Groundwater
- 10 A Balanced Marine Environment,
Flourishing Coastal Areas and
Archipelagos
- 11 Thriving Wetlands
- 12 Sustainable Forests
- 13 A Varied Agricultural Landscape
- 14 A Magnificent Mountain Landscape
- 15 A Good Built Environment
- 16 A Rich Diversity of Plant and Animal Life



**The basic principle
is to integrate
ecological, social and
economic sustainability**



The power of the objectives?

They are guidelines for:

- sectoral, regional and local objectives
- decision on strategies and priorities at various levels (not only environmental)
- decision on instruments and measures
 - economic
 - rules
 - voluntary agreements
- the applicaion of the Environmental Code



Environmental Quality Objective – A Non-Toxic Environment



”The environment must be free from man-made or extracted compounds and metals that represent a threat to human health or biological diversity.”

(adopted by the Swedish Parliament, prop.2004/05:150)

The objective is intended to be achieved within one generation
(2000-2030).

Two interim targets regarding remediation



6. "Studies will have been carried out and, where necessary, appropriate action will have been taken by the end of 2010 at all contaminated sites that pose an acute risk on direct exposure, and at contaminated sites that threaten important water sources or valuable natural environments, today or in the near future."

7. "Between 2005 and 2010, measures will be implemented at a sufficiently large portion of the prioritized contaminated sites to ensure that the environmental problem as a whole can be solved by 2050 at the latest."

The aim of remediation

is long term sustainability to protect

- health
- environment
- natural resources

today and in the future...



Starting points - time perspective and health



1. Risk assessment of contaminated sites should be carried out in a short term as well as in a long term perspective
 - It is often possible overview land use for less than 100 years (starting point in risk assessment and remedial alternative evaluation)
 - In a longer perspective (100 to 1000 years) a lot can happen e.g. with contamination left on site
2. The exposure from a contaminated site should not alone constitute all the exposure that is tolerable for a human (TDI)

Starting points - water environments

3. Ground and surface waters are natural resources that should be protected
4. There should be no long term risk that the release of contaminants from a contaminated site can deteriorate the quality of ground and surface waters
5. The aquatic ecosystems should be protected in order to especially care for vulnerable/threatened species



Starting points - soil

6. The ecosystem of soil should be protected to be at least sufficient for the planned land use
7. Similar protection levels should be used within areas with comparable land use, e.g. a residential area



Environmental objectives and utilisation of waste

- There has been a need for guidance on
 - which regulations are concerned and how when waste is utilised for construction purposes
 - identification and estimation of the risks for human health and the environment when waste is utilised for construction purposes
- The government has asked Swedish EPA to present criteria to increase the rate of recovery of waste in constructions without risk for human health or the environment.

Specific regulation

- Two levels for utilisation
 - Involving *a risk that is more than minor* – application to the relevant County Administrative Board
 - Involving *a minor risk* – notification to the appropriate Municipal Board

(regulated in the Annex to the Ordinance on Environmentally Hazardous Activities and Public Health)
- *Less than "minor risk"* – no restrictions for use and no notification is needed
 - Swedish EPAs coming guidance presents criteria for the level "minor risk" - *i.e; What can be considered as less than minor risk?*
 - The municipal board decides on these levels

Criteria for utilisation of waste in construction

- Less than minor risk - no restrictions for human exposures, insignificant effect on soil species and processes (95 % protected), phase out substances at the level of background, including Hg, Pb, Cd.
- One example where other conclusions can be made – [covering of landfill](#), intended use as recreational area, 75% of soil species and processes protected, risk evaluation of phase out substances

Starting points and risk assessment

- The environmental objectives **Non-toxic environment** and **Good built environment** are the main determining objectives for utilisation of waste in construction
- The same model for risk assessment as in contaminated sites has been used with some modifications
- Contamination by utilisation of waste to the level where remediation may be necessary is not acceptable

For further information please look at...

Environmental Quality Objectives

<http://www.miljomal.se/Environmental-Objectives-Portal/>

The Environmental code

<http://www.regeringen.se/sb/d/2023/a/22847>

Remediation

<http://www.swedishepa.se/en/In-English/Menu/Operations-with-impact-on-the-environment/Remediation-of-contaminated-areas/>

Utilisation of waste as construction material

<http://www.naturvardsverket.se/en/In-English/Menu/Products-and-waste/Waste/Management-and-treatment-of-waste/Utilisation-of-waste-as-construction-material/>



Thanks for your attention!

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