



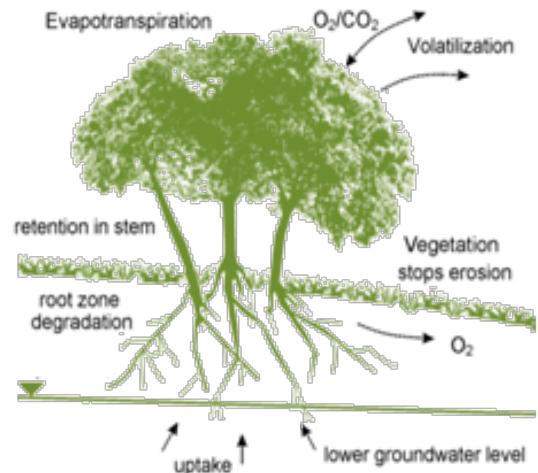
PHYTOREMEDIATION - A GREEN SOLUTION -

Type of product	Remediation method (included in guidelines, Model evaluation tool, User ISI papers)
Target group	Consulting companies, Scientific researchers, Authorities
Availability	Timbre, DTU website, scientific journals

Background/Purpose: Clean up and regeneration of brownfields is challenged by economic issues due to the large size of the affected areas. Excavation of the contaminated soil is an overwhelming task and often not a very wise choice. For shallow soil and groundwater contaminations phytoremediation may be a good alternative by providing a fairly inexpensive, green technology with a positive impact on the surroundings.

Phytoremediation encompasses different processes:

- Phytoextraction: Transfer of pollutants to the vegetation.
- Phytovolatilization: Volatilization of components through stomata of the leaves and trunk.
- Rhizo- and phytodegradation: Degradation of contamination in the root zone or within the plants.
- Hydraulic control and soil fixation: Plants prevent soil corrosion and minimize infiltration.



Overview processes of phytoremediation

Approach: Fast transpiring plants with deep roots like willows or poplars are planted in the treatment area. Proper monitoring and maintenance will be needed in order to follow the remediation progress. The method aims to either remove contaminants from the soil matrix or to change the physical and chemical nature of the pollutant or soil matrix. Phytoremediation has been used for a wide variety of contaminants ranging from chlorinated solvents, explosives, MTBE, BTEX, PAH and heavy metals. It should be noted that removal of contamination to acceptable levels, solely by phytoremediation, may be difficult to obtain.

Practical and social implications: Phytoremediation provides an economic and simple technology compared to other remediation methods. The area appears beautiful during treatment and can be used as “green” area thus having a minimum impact on the site and the surrounding area.

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Timbre – www.timbre-project.eu – acknowledges the received funding from the European Community's Seventh Framework Programme FP7 (2011-2014) under grant agreement no 265364

