

FLOWER POWER



RANDY MOTT, PRESIDENT OF PHYTOREMEDIA SP. Z O.O., HIGHLIGHTS THE PROS OF USING PLANTS TO REMOVE POLLUTION FROM CONTAMINATED SOIL.

The new law on contaminated land in Poland is quietly causing concern among landowners who now face potential liability of expensive clean-up programs. Thousands of sites exceed the Polish soil quality standards and will have to be assessed, and where neces-

hyper-accumulation of contaminants in many species of plants and the transformation and volatilization of contaminants through plant leaves. Every month there are new studies based on laboratory results, *in situ* field testing and pilot remediation projects.

tion to address the areas of contamination where it is less urgent to remove soil and where risk assessment supports eventual recovery over longer time scales. One smart move by site owners would be to use phytoremediation on industrial



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sary, cleaned up. The traditional methods used in Poland are to excavate and remove the material to a landfill where the same problem could arise in the future at the expense of the landowner turned into a waste producer. The costs of this approach are enormous. Because of that many issues persist where the contamination remains in place. They may cause a future possible problem, especially if the land use changes.

INNOVATIVE APPROACH

One new solution that has now reached commercial feasibility due to decades of research is phytoremediation. This involves using plants to absorb, bioaccumulate, or transform the contaminants without excavation and removal of large volumes of soil. The two main mechanisms are the

This approach has already been approved in Poland under the current laws.

FLEXIBLE APPLICATION

Many of the most common types of soil contamination can be addressed with phytoremediation. This process can also be enhanced by use of microbes and soil additives in some cases. The list of successful projects includes petroleum-related sites, polynuclear aromatic hydrocarbons, explosive compounds, heavy metals and many more compounds. Site remediation can range from two years to over a decade. For large contaminated sites, the longer term clean up by phytoremediation may be the only feasible method of restoring the soil. Phytoremediation can also be combined with traditional excava-

tion to address the areas of contamination where it is less urgent to remove soil and where risk assessment supports eventual recovery over longer time scales. One smart move by site owners would be to use phytoremediation on industrial

COST-EFFECTIVE CONCEPT

The concept is simple and cost-effective, but requires very detailed professional assessments and implementation plans. Every location presents a specific set of conditions that have to be considered before a project can be considered feasible. The advantage is that this assessment and remedial planning are insignificant costs in light of the potential expense of dealing with contaminated sites through the traditional approach. Full clean-up by phytoremediation generally costs only 10-15 percent of the cost of the traditional approach.

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