

Polish Innovation Comes to the Environment's Rescue

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TECHNOLOGY ACCELERATOR

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EnviroMix[®], an innovative technology for the treatment and stabilization of industrial hazardous waste, is either already in use or in the process of being implemented on virtually every continent.

It ensures a 99% reduction of pollution in one simple process. What does EnviroMix[®] have in common with inventions such as the helicopter, steam engine, two-way radio, bulletproof vest, color photography, blue laser or a paper clip? All of them were developed by Polish inventors.

The extent of organic and inorganic waste stabilization by traditional methods using cement and lime is two to three years. EnviroMix[®], developed by Ecotech Poland, is a solution on a global scale to the growing environmental problem.

EnviroMix[®] is a stabilizing fourth-generation technology. In contrast to previously used methods, EnviroMix[®] guarantees practically indefinite environmental protection. The most interesting fact is that this material comes entirely from natural sources; its innovativeness is not due to the use of equipment. As a result, standard industrial equipment available worldwide can be used; and, if the need arises, a portable installation capable of operating in situ can be set up.

The innovativeness of EnviroMix[®] is completely due to the chemical reactions occurring between the waste, the stabilizing agent and the catalysts. The waste material is enclosed in crystalline structures of the stabilizing material; thus it is permanently attached to it. After wet mixing, a paste having the consistency of thick concrete comes out of the mixer which can then be formed into anything (discs, briquettes, cylinders, etc.).

The process makes chemical sense. Natural rock is prepared and crushed appropriately, and then, as a result of chemical reactions, its natural structure is reproduced. This time, the waste is encased. Samples ground to 5 mm undergo leaching tests which guarantee that even if the material is destroyed, nothing will enter the environment again.

Stabilized wastes are also resistant to high temperatures and changes in pH levels brought about by the environment. These properties allow the material to be recycled, for example, as aggregate or as filler for construction materials or transportation surfaces such as embankments.

Patents for EnviroMix[®] have been submitted to offices in the EU and the US. It is listed in Enterprise Europe Network's innovative technologies database as well as in project Wastetrans. Studies supporting its effectiveness have been performed worldwide.



EnviroMix[®] has received numerous awards and honors, but its most proud moment of international implementation was obtaining leadership status in the environmental, government project GreenEvo - Green Technology Accelerator. Due to the support of a network of Polish diplomatic agencies and the recommendation of the Minister of Environment, EnviroMix[®] has rapidly spread to virtually every continent. The first contract was signed with the Armenian government on two major projects concerning the treatment of pesticides and arsenic-laden waste.

The project involving pesticides is an important one due to the fact that pesticides buried in underground storage units threaten the capital's groundwater intake. Preliminary tests on samples showed a reduction of organic halide derivatives to 85% +/- 5%. Ecotech Poland is conducting further research to push that to more than 95%.

EnviroMix[®] is also being successfully implemented in Vietnam--in this case, for the treatment and recovery of hazardous waste, including one of the most dangerous, dioxin. A letter of intent was signed by the Vietnamese government. The main objective in this project is to choose optimal parameters for the infamous Agent Orange left after the war and its very dangerous metabolites. The first phase is a research project and the implementation of its results in the rehabilitation of a military airport.

Ecotech Poland has also signed project contracts with Israel and Lithuania. In Israel, it will manage waste from a refinery. Earlier, companies from Switzerland and England had no luck with it. On-site tests confirmed the effectiveness of EnviroMix[®] in reducing not only heavy metals, but also the fraction of PAHs.

In Lithuania, one company is beginning to apply EnviroMix[®]. Interestingly, they will first treat mixed wastes in the form of sludge from a galvanization plant as well as waste from paints and varnishes, used later to build warehouses.

Presently, companies interested in cooperating with and purchasing licenses from Ecotech Poland are from Europe, Asia and the Middle East, as well as from the US and Canada. International success has also attracted the interest of investors. The result of which is a planned debut of Ecotech Polska on NewConnect, a Polish exchange reserved for innovative technology companies.

According to Ecotech's president, Dr. Dominik Wojewódka, acquired funds will be invested in foreign projects and further research. Ecotech's priority is treating waste from explosives and waste with low radioactivity. China is interested in the first of these, while the latter may lead to an important contract with Malaysia.

"It is unlikely that we will become a widely-recognized brand name representing Poland like IKEA is for Sweden since the market is more specific and hermetic. Our goal nonetheless is to attain and remain in the top ten most recognizable companies dealing with hazardous waste on a global scale," says Wojewódka.

