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Stabilization and reuse of PFAS contaminated soil and treatment of leachate and groundwater by Surface Active Foam Fractionation (SAFF)

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The management of soils, leachate, and groundwater contaminated with per and polyfluorinated alkyl substances (PFAS) is a major challenge worldwide. Conventional remediation methods are not applicable due to the inherent chemical stability of PFAS substances. On the other hand, landfill disposal, which is common in Europe for other soil contaminants, presents its own challenge for PFAS contaminants, as the disposal of PFAS soil in a landfill creates a concentrated point source of water-soluble substances that poses a threat to human health and the environment.

This paper presents some of the recent progress made in stabilizing PFAS in soil using Rembind's proprietary stabilizer and Surface Active Foam Fractionation (SAFF) for treating PFAS contaminated water with air and electricity only.

The results of a pilot project and two large-scale projects are presented and discussed in terms of the sustainability of the approaches and the total cost per unit of soil/water treated.