GeoTHERM
expo & congress

Donnerstag, 20. Februar 2025, 15.10 Uhr
Ortenauhalle Kongress 1
Tiefe Geothermie

Thursday, 20 February 2025, 3.10 pm
Ortenauhalle Congress 1
Deep geothermal energy

ECoPID PROJECT: A Cooperation to Develop Environmentally Responsible Solutions for Upper Rhine Graben Geothermal Field

ECoPID PROJEKT: Eine Kooperation zur Entwicklung umweltverträglicher Lösungen für das Geothermiefeld Oberrheingraben

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Deep geothermal fluids extracted from the Upper Rhine Graben (URG) are notable for their high temperature (over 150°C), acidic pH (around 5), dissolved gases (predominantly CO2), and containing more than 100 g/L of dissolved solid, mainly Cl, Na, Ca and K ions. The cooling of geothermal fluid in heat exchangers for electricity or heat production leads to a change in thermodynamic equilibrium and consequently the formation of scaling/deposits. In the URG, the most common mineral precipitations can trap heavy metals (Pb, As, and Sb) and radionuclides such as 210Pb, which come from the decay of uranium and thorium naturally present in the crystalline reservoir.

The ECoPID project addresses the challenges posed by these deposits and their associated corrosion, aiming to enhance the efficiency and longevity of geothermal power plants. Thanks to its collaborators Kurita, ES Géothermie and ADEME, the project encompasses the development of environmentally responsible treatments (scale inhibition, dispersion of residual radioactive deposits, etc.), laboratory and field trials (innovative tests, pilot plant), and an economic assessment of the proposed solutions. The goal is to improve the performance of the geothermal process and mitigate the impact of the plant on the workers' health and the environment. The project also discusses the implications of these deposits on the operation and maintenance of geothermal plants, highlighting the importance of ongoing research and innovation in this field.

This contribution aims to introduce and detail the background, work-packages and status of related ongoing project.