
Poster-021**Lithium-bearing brines in the Upper Rhine Graben, Germany**

L. Schwark

RWTH Aachen University, Aachen, Germany

Forecasts indicate that the global lithium demand will increase by a factor of ten over the next 20 years due to the transition to low-carbon economies, which requires new energy storage systems that rely on critical raw materials like lithium. This increased demand will lead to an increase in lithium prices through the next decade(s), so that deposits, which are currently not considered economically recoverable, will become profitable in the future. Consequently, the identification and evaluation of lithium enrichments is becoming more important. There are primarily two main types of lithium resources: (i) brine pumped from aquifers; and (ii) hard rock deposits. The feasibility of recovering lithium economically from any deposit depends on the size of the deposit, its lithium content, the content of other elements, and the processes that are used to remove the lithium-bearing material from the deposit and extract lithium from it. In the German Upper Rhine Graben, increased lithium concentrations up to 180 ppm are known to occur in deep geothermal brines. While the occurrence of lithium brines in this area is documented, the geological characteristics and recovery potential of this resource have not been considered in detail. By evaluating the chemical composition and various geochemical indicators, the origin and genesis of the brines can be estimated and the factors affecting lithium enrichment can be derived. The aim of this study is to gain a greater understanding of the resource potential of lithium-bearing brines in the Upper Rhine Graben in Germany. This includes an elaboration of a development model for this type of deposit, an economic feasibility analysis and an evaluation of possible recovery options.