**American-Made Geothermal Lithium Extraction Prize**

Team: Espiku


## Abstract

We are developing a transformational, environmentally sustainable, and cost-competitive $Li_2CO_3$ and LiOH extraction technology from low $Li^+$ concentration brines, which are abundant in the US. Our technology addresses a vital technological and national security need by producing Li salts from domestic sources with a cost-effective and environmentally benign containerized process. Our system is modular, portable, and scalable and eliminates the need for solar evaporation ponds which dramatically reduces land use. It operates on solar, geothermal heat, or waste heat with no adverse environmental impact, and emissions. We plan to design, fabricate, and demonstrate a pilot unit to produce $Li_2CO_3$ at a very competitive cost. In addition to Li salts, we will produce clean water and other solid salts. Some of the water and salts can be sold for added revenue and part of it can be reinjected into wells to avoid an impact on rock permeability, pH balance, and other damages to the formations.