

ASSESSING THE LITHIUM EXTRACTION POTENTIAL FROM MENENGAI GEOTHERMAL BRINE TO SUPPORT RENEWABLE ENERGY AND SUSTAINABLE DEVELOPMENT

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INTRODUCTION

Unlocking clean energy’s future, this project explores lithium recovery from Menengai geothermal brine, driving renewable power and sustainable development.



THE OPPORTUNITY



Kenya is a leader in geothermal energy. Geothermal brine, a waste byproduct, may contain lithium. This study explores extraction potential from Menengai Geothermal Field.

PROBLEM

The global push for clean energy is driving unprecedented demand for lithium, a key component in battery technology. However, the environmental footprint of traditional lithium mining is significant, with methods like hard-rock mining and salt flat extraction leading to vast land and water consumption. A truly sustainable energy future requires a paradigm shift in how we source this critical mineral



METHODOLOGY



Phase 1: Field Sampling – Collect brine samples from 5 wells.
Phase 2: Laboratory Analysis – ICP-MS for element detection.
Phase 3: Data Analysis – Use SPSS/R to analyze trends.

RESEARCH OBJECTIVES

1. Quantify lithium and other elements in geothermal brine.
2. Evaluate geochemical factors (pH, temperature, salinity).
3. Assess viability compared to international standards.



ANTICIPATED IMPACT

Economically attract green investment and create new industry.
Environmentally offer cleaner lithium extraction method.
Strategically position Kenya as a global leader in resource innovation.



CONCLUSION

Geothermal brine will provide lithium supporting renewable energy future.

