



グリーントランスフォーメーション先導研究センター 2025年度HU-GXC公募型研究プログラム研究成果

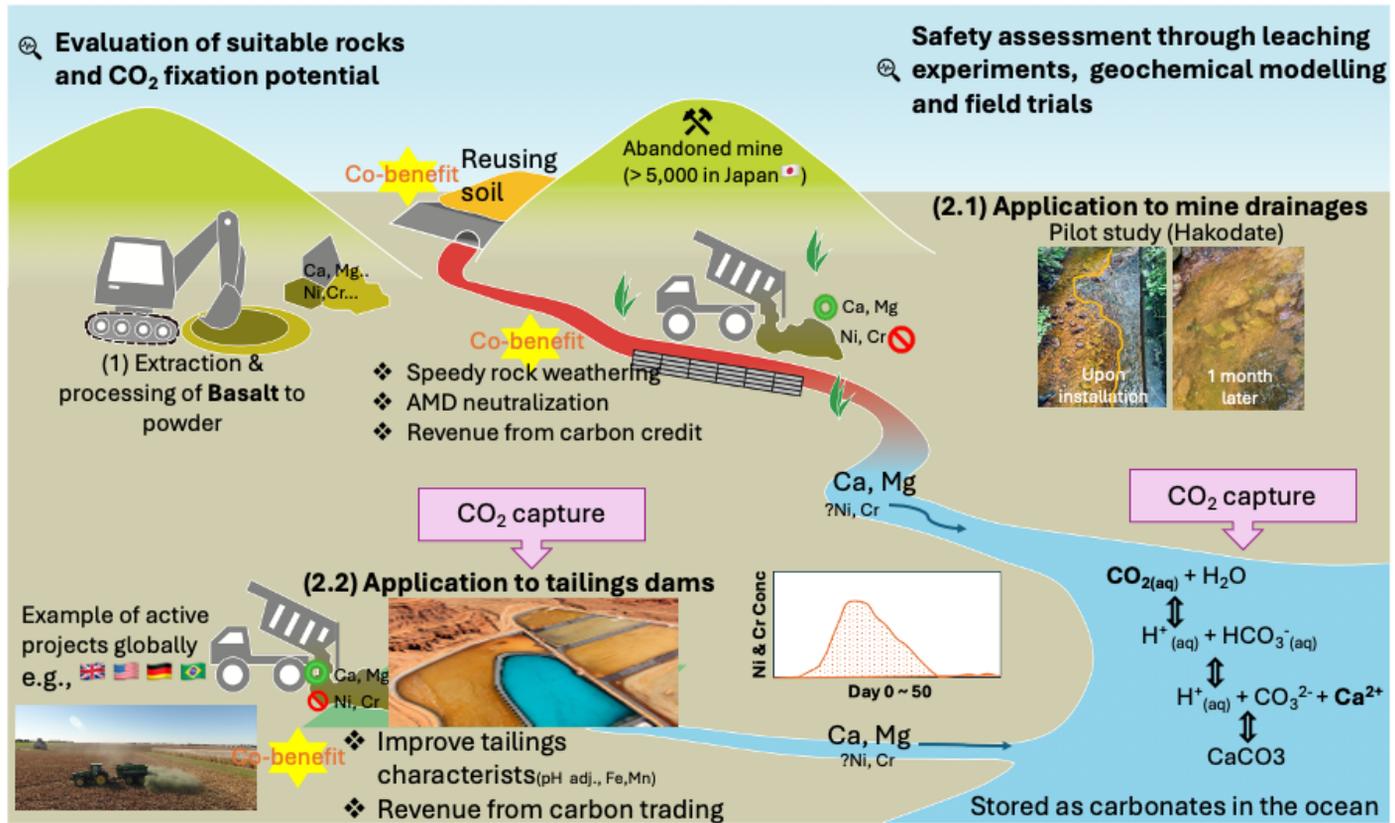
Advancing the implementation of Enhanced Rock Weathering (ERW): Element behavior and CO₂ Removal Efficiency from batch experiments and Field Trials

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関連キーワード: Enhanced Rock Weathering / Acid Mine Drainage /
Tailings Remediation / CO₂ Mineralization / Ni & Cr Safety



Research Background and Objectives

- 5,000 abandoned mines in Japan → Persistent AMD problem
 - Rising atmospheric CO₂ levels → Urgent need for carbon reduction
 - Increasing global tailings volumes → Growing environmental liability
- Need for integrated remediation + carbon sequestration solutions**

ERW intervention

- Slight pH increase
- Ni and Cr are self-limiting
- Tailings characterization

Future Works

- Geochemical characterization to quantify reactive phases and CO₂ uptake capacity
- Tailings may be developed as carbon sinks

