Resource Circulation

R&D Project Title: Metal Resource Circulation based on Chemical Control of Metal Anions

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Summary :

To address the critical challenge of improving the efficiency of impurity removal processes in metal production and recycling, we aim to develop an innovative technology that selectively dissolves impurities into a solvent and recovers them using a novel electrochemical method. This approach enables the simultaneous purification of metals and recovery of impurities, thereby allowing substantial reductions in both energy consumption and CO_2 emissions compared with conventional methods. Moreover, by promoting the recycling of base metals and recovering a wide range of metallic elements present as impurities, this technology can significantly reduce the need for energy-intensive mining and ore beneficiation. As a result, it is expected to contribute to major energy savings and CO_2 emission reductions throughout the entire metal production process.

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