

## New Perspectives for Electrodialytic Remediation

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Electrodialytic remediation has been widely used for the recovery of different contaminants from numerous matrices, such as, for example, polluted soils, wastewater sludge, fly ash, mine tailing or harbour sediments. The electrokinetic remediation is an enhancement of the electrokinetic remediation technique, and it consists of the use of ion-exchange membranes for the control of the acid and the alkaline fronts generated in the electrochemical processes. While the standard electrokinetic cell is usually built with three-compartment configuration, it has been shown that for the remediation of matrices that require acid environment, a two-compartment cell has given satisfactory removal efficiencies with reduced energy costs.

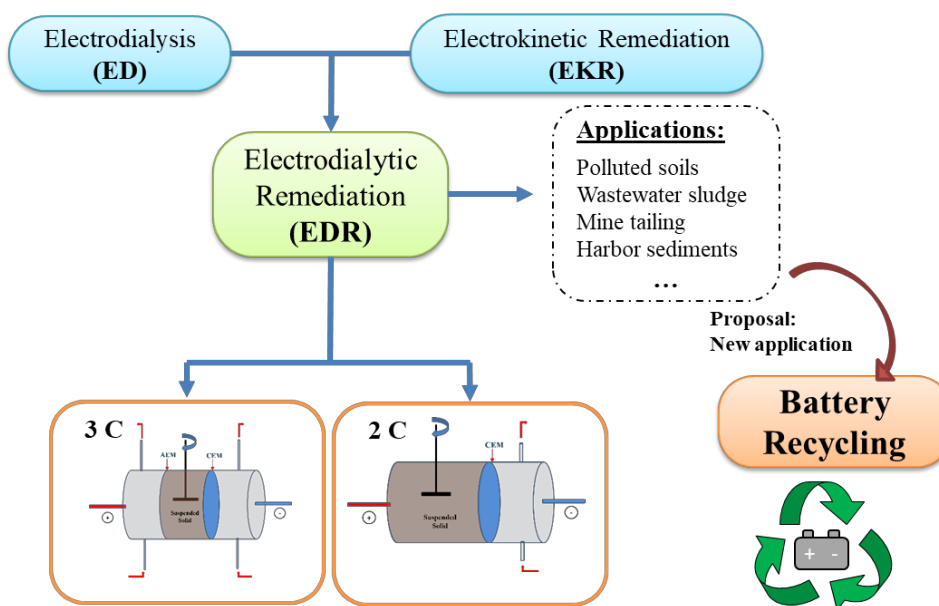


Figure: Overview of electrokinetic treatments and battery recycling perspectives.

Recycling secondary batteries, with growing demand, has an increasing economic and environmental interest. This work focusses on the proposal of the electrokinetic remediation technique as a possible application for the recycling of lithium-ion cells and other secondary batteries. The recovery of valuable components, such as lithium, manganese, cobalt of phosphorous, based on current recycling processes and the characterization of solid waste is addressed.

### Acknowledgements:

This work has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No. 778045. Paz-Garcia acknowledges the financial support from the University of Malaga, project: PPIT.UMA.B5.2018/17. Villen-Guzman acknowledges the funding from the University of Malaga for the postdoctoral fellowship PPIT.UMA.A.3.2.2018.