

SENECA

Strategic raw materials with secondary origin for energy independence and transition

Case Study



THE CHALLENGE: There is currently no technological or commercial offer in the market in Spain for the recovery of high-value metals for different type of industrial waste, including electrical batteries, in the first instance because some of this waste is not yet being produced, but will be produced on a massive scale with the introduction of factories for the production of batteries for electric cars, or Gigafactories. On the other hand, there is an external dependency of Europe on critical raw materials, whose demand will increase exponentially in the next years.

THE SOLUTION: The project was born with the main objective of researching and developing a technological process that allows the recovery of valuable metals (Ni, Co, Mn and Li) contained in lithium-ion battery (LIBs) manufacturing waste, specifically cathode material manufacturing waste, as well as other type of industrial waste, in such a way that it is possible to reintroduce them into the production chain as secondary materials. The proper management of LIBs will become a pressing need within the EU in the short term. Since they came into the market in the last decade of the last century, lithium batteries have increasingly occupied a larger market niche. Initially linked to electrical and electronic devices, the transition towards the electric vehicle that has taken off in the present decade represents a massive demand for this type of battery and therefore an opportunity to recover raw materials during its manufacturing period.

BENEFITS:

As previously mentioned, the generation of new technologies for the extraction and recovery of critical materials needed for batteries from secondary sources and their application in the recycling industry are based on two fundamental needs:

1. Recovery of the critical metals contained in this waste to prevent its dumping and consequent reduction of environmental impact.
2. Reduction of our external dependence on both the cells for the manufacture of batteries, as well as the raw materials or intermediate products for the manufacture of said cells in European territory, as well as other types of products that require critical elements contained in the cells: Co, Ni, graphite, Mn, etc.

INVESTMENT: 315.947€

DURATION: 2022 - 2025

CREW MEMBERS: Alvaro de Pablo, Ana Iglesias, Iñigo Alonso and Raquel Vinuesa.

The consortium for carrying out the project is made up of 8 companies, led by Pasek Minerales SA, with the participation of Eurecat, among others.



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