

Introduction to sodium based electrochemical storage. Round robin test on sodium ion innovative materials within project RdS 1.2

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In the frame of RdS National Fund PT 22-24, CNR, ENEA and RSE are involved in a three-annual integrated research project, named “Electrochemical and thermal energy storage technologies”, aiming at technical and technological innovation of different storage technologies, along their entire value chain.

One of the main technologies of the project is the sodium-ion technology, involving CNR, ENEA, RSE and several partners from universities in the development of advanced materials: cathodes, anodes, electrolytes, binder etc.

Different classes of materials are explored, new formulations, various element doping and substitution, innovative synthesis processes and treatments (chemical and heating).

In this frame of experimental activities, CNR, ENEA and RSE are performing a comparison among their results in the anode and cathode development. They are conducting a Round Robin test on sodium ion innovative materials, for the screening of materials and assembly procedures of sodium-ion half-cells. Specifically, the materials shared in the form of powders or coatings will undergo electrochemical characterization at the laboratories of the three organizations (Round Robin test). The aim is to compare and validate the assembly and testing methodologies used by each participant, with the goal of identifying critical points that need attention for optimizing cell assembly and simultaneously identifying the most promising materials.

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