

# **CNR Research Activity on next generation sustainable electrochemical storage solutions**

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European research activity on electrochemical storage sector (ESS) looks towards more sustainable solutions for the decarbonization target to 2050, from the materials choice up to the process for the final purpose. In accordance with the European roadmap as well as the PNIEC targets, the Ricerca di Sistema (RdS) finances specific topics considered strategic for the Italian energy grid,. By an Integrated Project on electrochemical and thermal storage within the PT 22-24 and the so called ORANGEES Project, this latter a tender financed by found of PT 19-21, RdS was able to covers research activity on ESS by investments of national interest, that look both to medium and long terms. Therefore, at the end of the Integrated Project and 1 year after the start of the ORANGEES project activity, CNR presents some of the more relevant results obtained, from to the synthesis of materials coming from biomasses for electrochemical storage device up to the experimental test on commercial lithium – ion battery, by well defined test protocol for 2nd and 1st life, finalized to the data base creation for battery state of health prediction.