

The 2019-2021 ENEA project on electrochemical energy storage

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The presentation concerned the research program carried out by ENEA in the three-year period 2019-2021 on energy storage. The project was divided into three work packages dedicated respectively to electrochemical, thermal, and power-to-gas storage. In addition to ENEA, twelve university research groups from ten Departments collaborated on the project. The activities carried out included the study and development of the physics and chemistry of energy storage materials to reduce costs, increase energy density, and extend the fields of application. The research program gave the opportunity to explore the entire battery supply chain, starting from the synthesis of materials and arriving at the production of complete batteries, without neglecting the reuse of exhausted batteries. Both lithium-ion batteries and more innovative systems such as sodium-ion, lithium sulfur, and lithium air batteries were studied. To obtain these results, the contribution of the Universities was invaluable. The high number of technical reports, publications and congress participations testify to the goodness of the obtained result.