**Electrochemical Energy Storage in the Energy Transition**

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Electrochemical energy storage is often mentioned in connection with renewable energy sources (wind, solar) as a key enabling technology to shift to a renewable energy system. For one, the supply of those intermittent sources does not match the demand at any one time, which necessitates storage between sub-minute times to seasons. For the other, electrifying transport is now widely accepted to be a viable way to power it with renewable energy. The rapid development of Lithium-ion in the last decades with lower price and large-scale availability has given us a taste of what batteries can do in electric transport and storage of solar electricity. This has raised hopes that batteries in general could be the viable solution for very large-scale energy storage for transport and the electricity grid.

Here, I examine issues around the very large-scale deployment of current-technology and in-development batteries. Key issues arise from the materials used and their availability as well as the energy input for the production and recycling of the cells.