

Cost reduction potential of electrochemical energy conversion devices for electric drives



Fuel cells and lithium-ion batteries are currently investigated as power source for electric drives. Both are powerful, silent and emission-free, but the battery is limited in capacity, and so is the achievable driving range. A charging time of several hours limits the acceptance of battery electric vehicles. Fuel cells need hydrogen as fuel, thus a hydrogen fuelling infrastructure is required. For both options, cost is still the main issue.

In a study, the two electrochemical energy converters shall be compared. Experiments will include operation of a fuel cell in a test rig, charge-discharge experiments with Lithium-ion batteries and injection moulding of bipolar plates as one option of mass production techniques for fuel cells

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