# Nanostructured Batteries for Renewable Energy Storage

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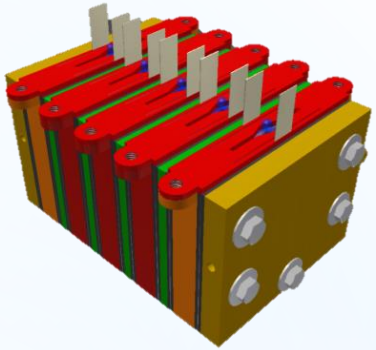
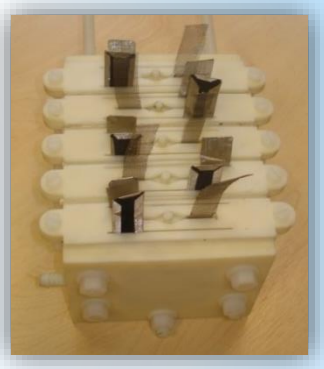
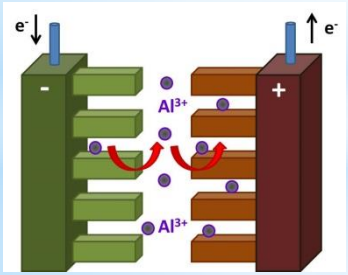
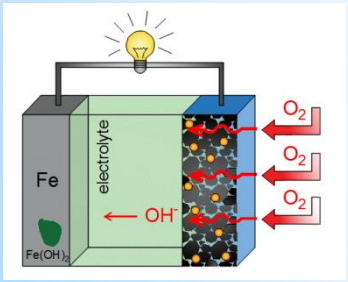
Off-grid storage of renewable energy



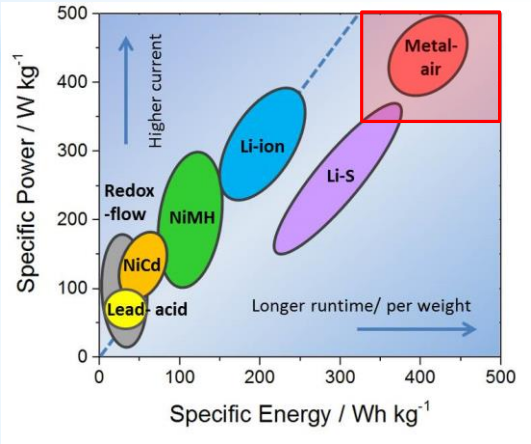


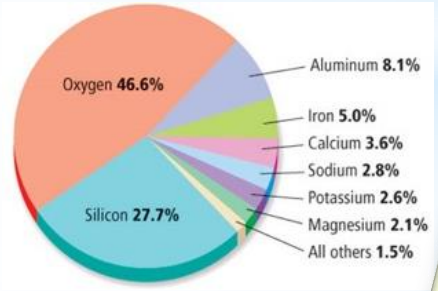
Improving design & recyclability




Investigating new chemistries



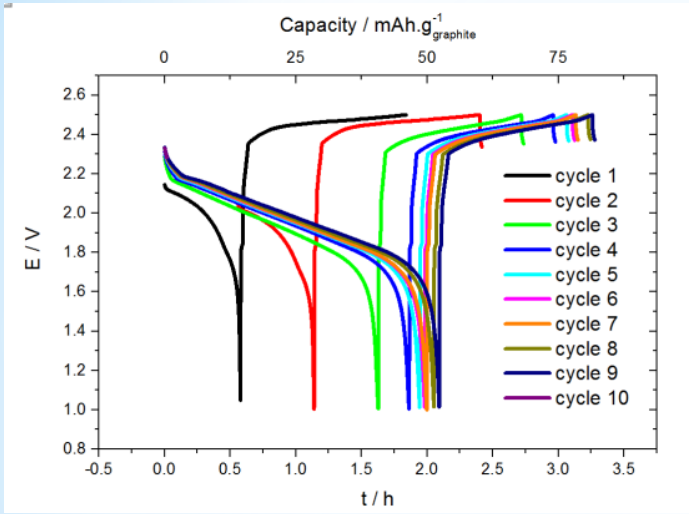




Using green and non-toxic materials

EPSRC ALION necobaut

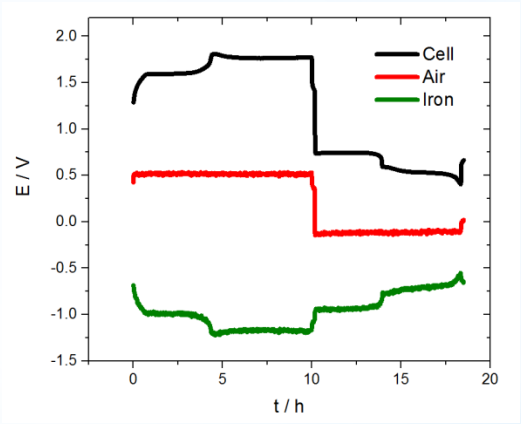
UNIVERSITY OF Southampton

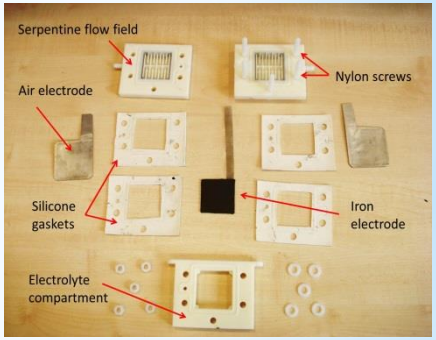
# Results so far…




High energy density iron-air battery

- Good performance of electrodes
- Air electrode suitable for other carbon-saving applications (e.g. fuel cells)




Rechargeable 2V aluminium-ion battery with high stability

Cell voltage = **0.76 V**
Max. Power = 95 mW
Capacity = 800 mA.h $g^{-1}_{Fe}$
Energy Density =
**453 W h $kg^{-1}_{Fe}$**