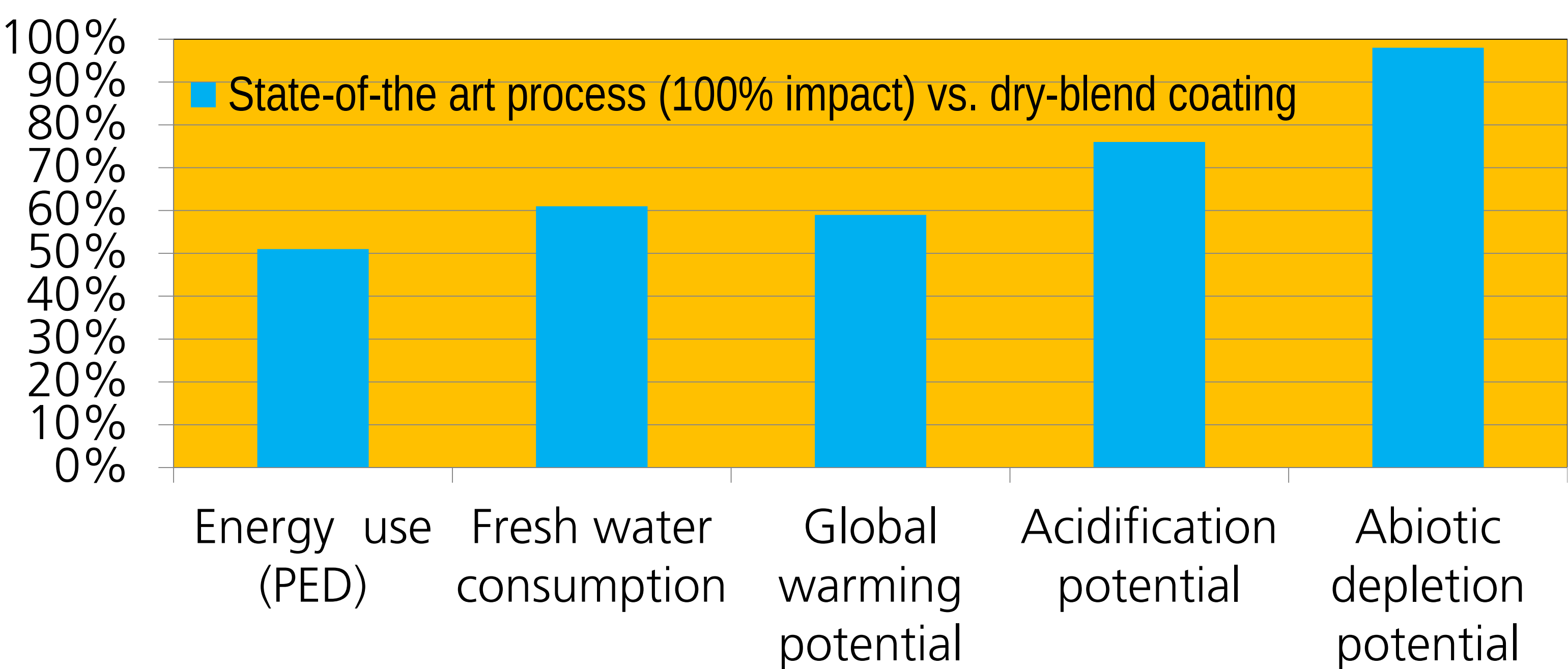


New dry-blend cathode manufacturing process for lithium-ion batteries

The electrode manufacturing process still is a major challenge in battery production for electric vehicles. In work package 1 of the European project “ELIBAMA” a new process is developed to replace the organic solvent based state-of-the-art coating process by a dry-blend coating process.

Life-Cycle Assessment (LCA)

- State-of-the-art electrode manufacturing process (100 % impact) compared to the new dry-blend coating



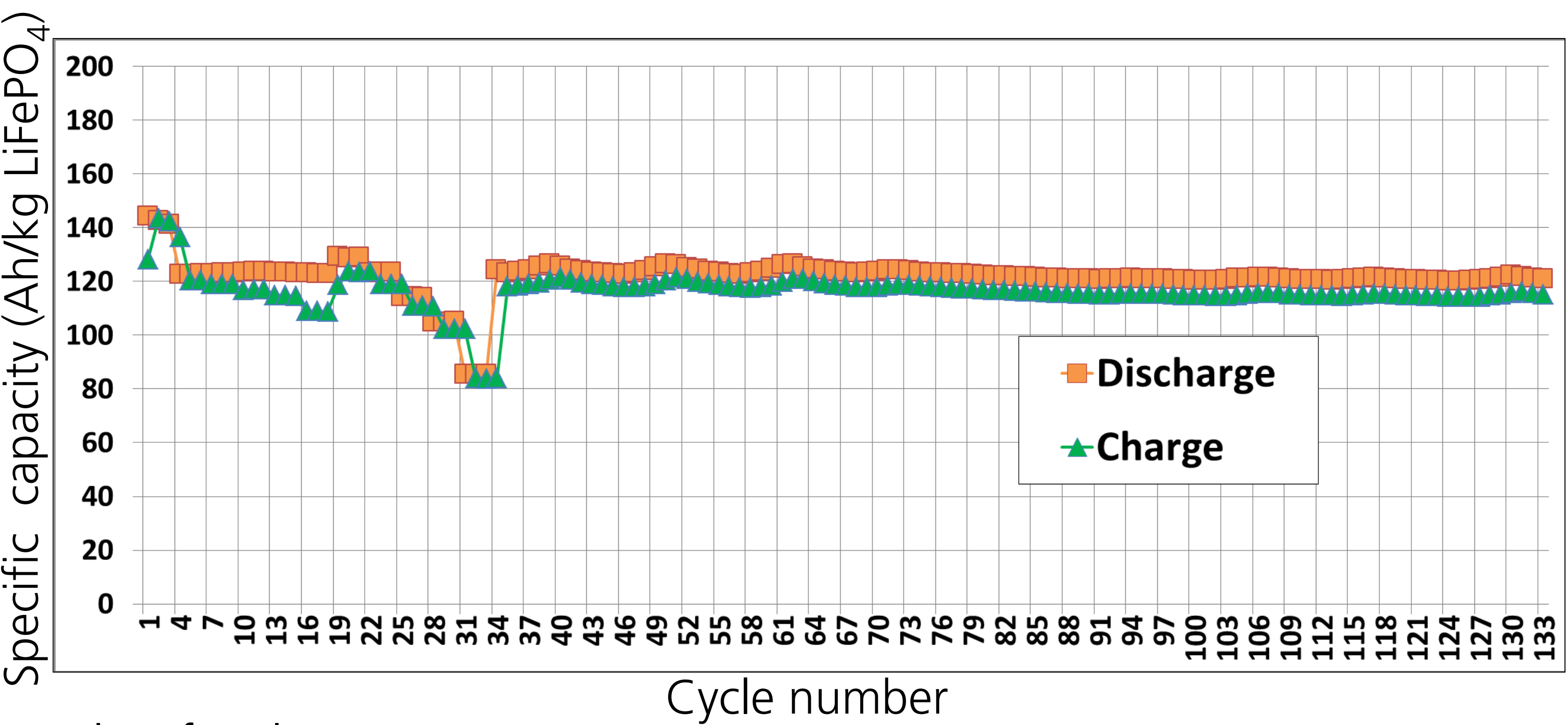
Results of Life-Cycle Assessment (LCA)

Electrochemical activity

- Cycle tests carried out with counter and reference electrode, Li metal 2.5 – 4.2 V vs. Li/Li⁺
- Constant current – constant voltage
- CV step until current below 0.05 C or time = 1 h
- Dry-blend coated samples of current collector foils show good results in the cycle tests, compared to those produced with the state-of-the-art process

Cycle	Charge	Discharge
1-3	0.1 C	0.1 C
4-18	0.5, 1, 2, 3, 5 C (3 cycles each)	1 C
19-33	1 C	0.5, 1, 2, 3, 5 C (3 cycles each)
34-....	1 C	1 C

Parameter settings of cycle tests



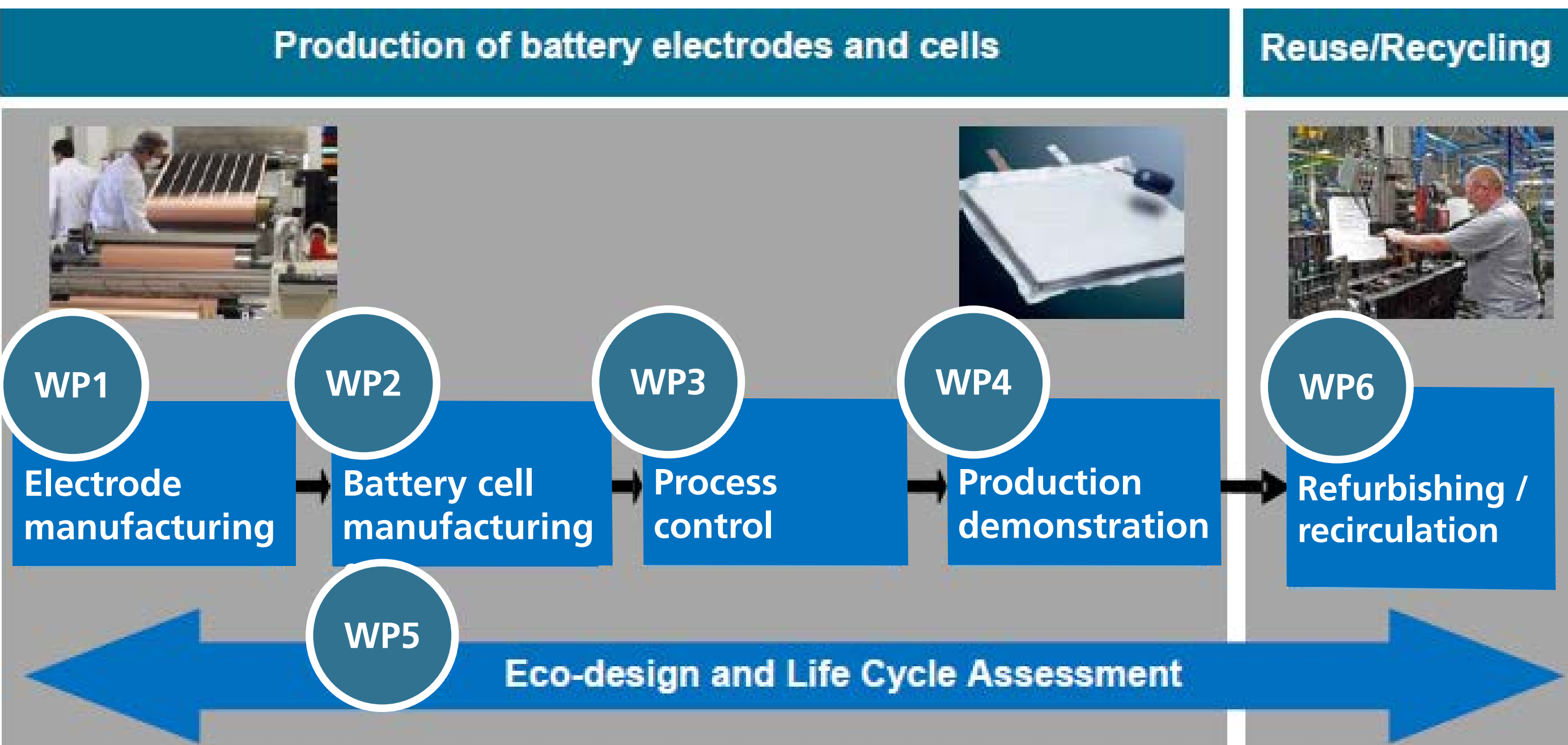
Results of cycle test

Li-ion battery manufacturing operational work packages

- Improvement of the complete process chain from electrode manufacturing to recycling

Administrational information about ELIBAMA

- Budget: 15.4 M €
- Duration: 36 months (start: November 2011)
- Website: www.elibama.eu
- Partners involved: See on the chart (right side)
- Contact person: Markus Cudazzo
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Lithium ion battery manufacturing operational work packages

