

RAMSSES - Realisation and Demonstration of Advanced Material Solutions for Sustainable and Efficient Ships

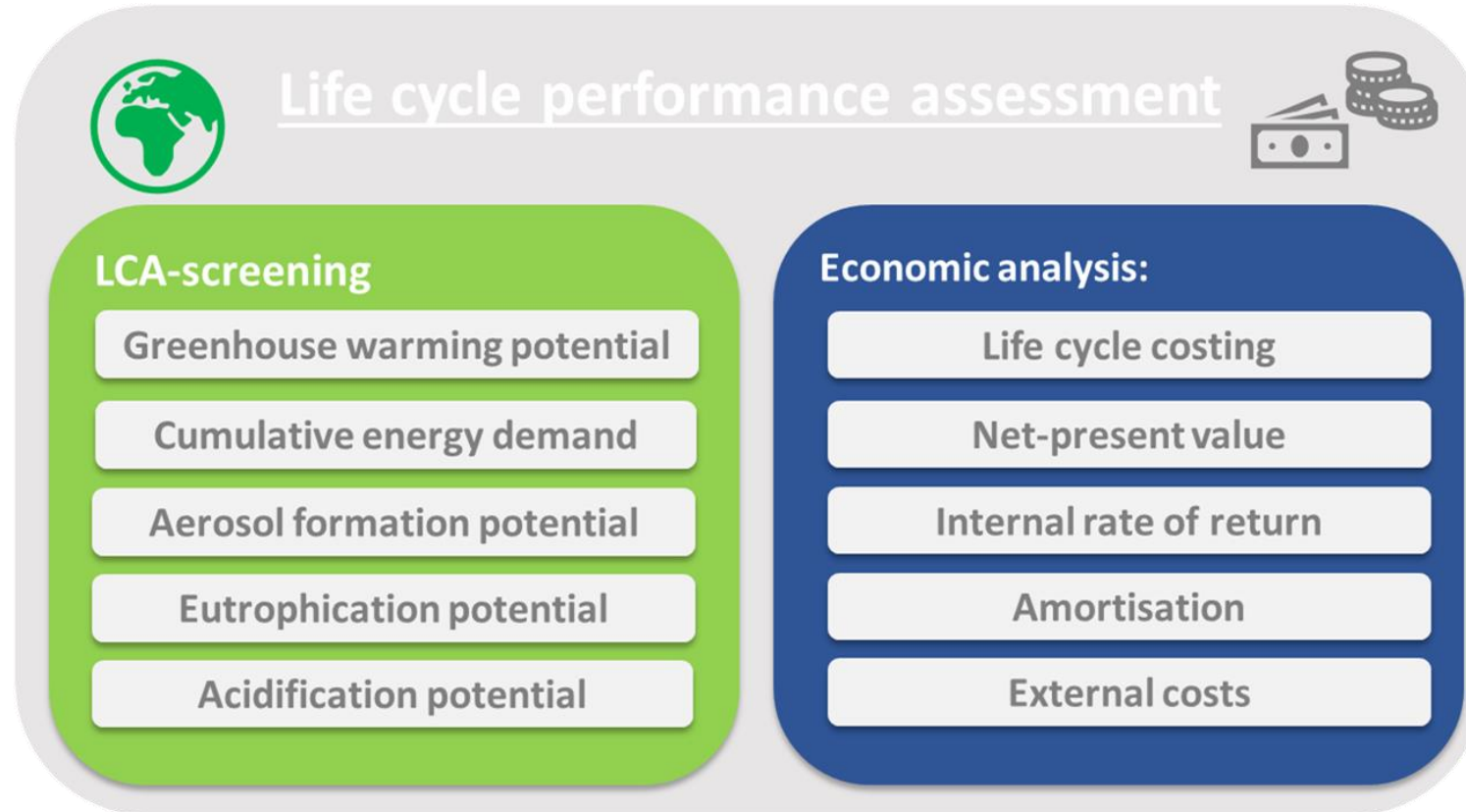
First draft for the Final conference

Work Package 8 – Life cycle performance assessment

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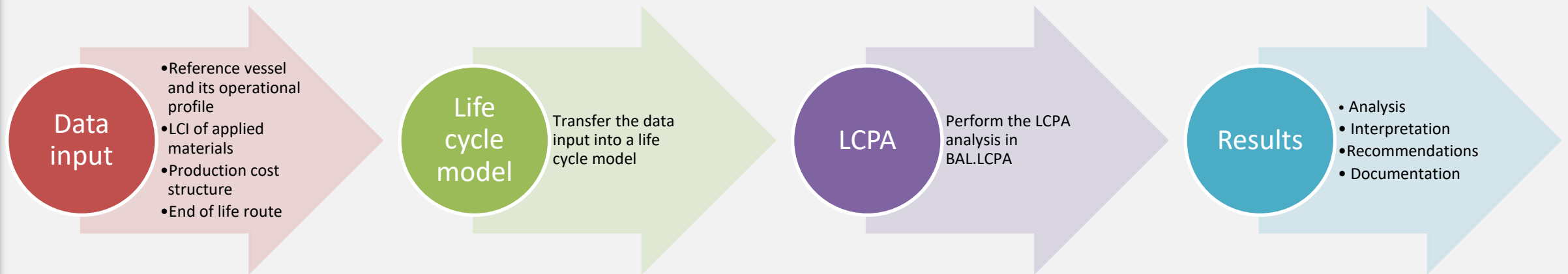
BALance Technology Consulting GmbH





 **BAL.[®]LCPA**
Life Cycle Performance Assessment

Comparative approach on vessel level: RAMSSES Innovative Solution vs State of the art



 No savings
 Up to 5% reduction
 More than 5% reduction

WP	Global warming potential (GWP)	Cummulative Energy Demand (CED)	Aerosol Formation Potential (AFP)	Eutrophication Potential (EP)	Acidification Potential (AP)
9	↑	↑	↑	↑	↑
10	↑	↑	↑	↑	↑
11	↗	↑	↑	↑	↑
12	↗	↗	↗	↗	↗
13	↗	↗	↗	↗	↗
14	↗	↗	↗	↗	↗
15	↑	↑	↑	↑	↑
16	↗	↗	↗	↗	↗
17	↑	↑	↑	↑	↑
18	↑	↑	↑	↑	↑
19	↗	↗	↗	↗	↗
20	↗	↗	↗	↗	↗

Higher costs
 Same cost level
 Up to 5% higher
 More than 5% higher

WP	Investment costs	OPEX reduction	Net-present value	Payback time (in years)
9				-
10				-
11				-
12				-
13				< 2
14				-
15				-
16				-
17				< 4
18				< 3
19				-
20				< 5

In high energy price scenarios

- RAMSSES lightweight applications provide valuable contribution towards zero-emission waterborne transport
- Production- and assembly processes for RAMSSES lightweight applications lead to limited additional investment costs or to even lower investment costs compared to SOTA
- The majority of RAMSSES lightweight applications are economic viable in every considered scenario
- All RAMSSES lightweight applications are economic viable in middle to high energy price scenarios

More information on life cycle performance assessment and  **BAL.LCPA**
Life Cycle Performance Assessment

lcpa.bal.eu

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